DELOREAN OWNERS ASSOCIATION

dw magazine

Travel • Technical • Lifestyle

dw magazine Volume 1 No. 1 SUMMER 2002

NASU Garage

The CLUTCH

Upgrading the DELOREAN AUDIO SYSTEM

Northwest PASSAGE

The Coolest Vehicle

Welcome to Belfast

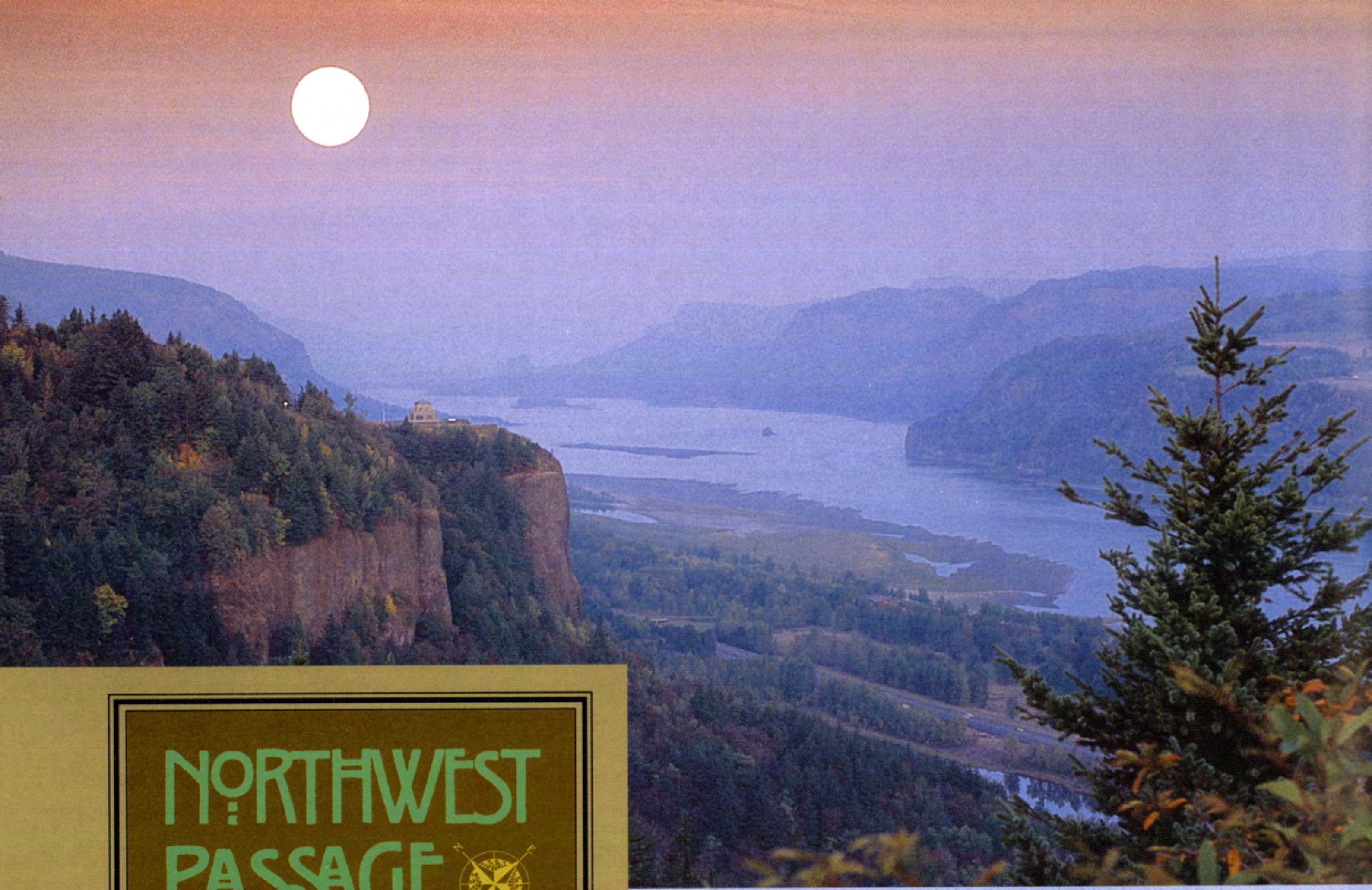


Photo: Sally McAleer

NORTHWEST PASSAGE

THE DELOREAN OWNERS
ASSOCIATION PRESENTS
A NEW KIND OF ADVENTURE
September 19-21, 2002

Photos courtesy of the
Convention and Visitors Association of Lane County, Oregon

President's Message

◀ *Linda Porter* ■ **Photo:** John C. Worsley M. Photog F-PPC

Welcome to the premier issue of **dw** magazine! Fascinating changes are in store for the largest, independent car club in the world. The transformation of DeLorean World Magazine to this new, exciting format is only the most visible.

With the publication of the Winter 2002 issue of DeLorean World, Association Board member David Knudson resigned his position as Editor. After devoting many years to the Association's Board of Directors, David's business and personal commitments were becoming too time consuming to continue giving the editorship the time and effort he felt it deserved. David has devoted many years to our organization and his hard work and professionalism are evident and very much appreciated.

Faced with the challenge of printing a magazine with no editor to handle all the details of such an endeavor, I asked Board member and former DeLorean World Editor Ed Bernstein to be the interim Editor.

With a change of editors, it seemed like the perfect time to implement other changes including the image of the DeLorean automobile owners throughout the world. This issue is the result. An enlarged magazine with more color pictures is the first and most obvious difference. Looking beyond that, you will find other signs of change.

Technical information will be more extensive based on improving, comprehending, and maintaining the value of the automobile. The first of several articles concerning the DeLorean automobile clutch appears in this issue. Building upon previous articles in DeLorean World Magazine, Dick Shipman has addressed emergency bonnet opening procedures in event of a failure. Some DeLorean owners have elected to modify their factory original audio system to those available in today's new car purchases. Don't miss the extensive coverage on the introduction of cutting-edge technology and improvements in audio and electronic systems that can be introduced to your DeLorean automobile.

DeLoreans around the world are featured in this issue. Courtesy of Daytona Magazine, Japan, you can read about and see a beautiful car owned by Mr. Yoshiaki Matsubara housed in his personal museum in Nasu, Japan. When you visit Japan, Mr. Matsubara's collection is a destination to be included on your itinerary.

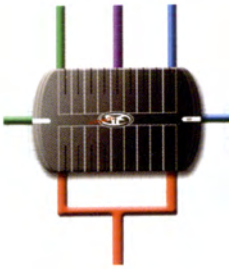
Read Robert Lamrock's article on Belfast and you will realize that when visiting Europe, you will want to make a point to visit Northern Ireland and Belfast. Take along the Belfast Explorer for help with all the "must see" things in this exciting city. If you attended any of the three Eurofests held in Belfast, reading this article will bring back fond memories of your time spent there.

You'll really enjoy reading about a recent excursion to the Central Coast region of California by 40 DeLorean Owners Association members from Southern California. The area is very popular with romantics looking for the scenic back roads found throughout the rolling hills and valleys. This is not the first time Southern California members have spent a weekend in the Solvang area, but this trip had a touch with a murderous twist. If you missed the trip, why not drive back and visit the scene of the crime at The Flag Is Up Farms and Mission Santa Ines.

Bob Petruska shares details of his trip to Florida to attend FX-2002 Toy and Collectible Show. When you read it, you'll see the DeLorean tie-in.

By now, you've probably made your reservations to attend the Northwest Passage event sponsored by the Association this September 19 through the 21st. If you haven't done that, you'll be missing the opportunity to take part in the first of many driving experiences the DeLorean Owners Association plans to make around the continental United States. No matter what kind of car you drive on the tour, I think you'll be glad you joined in the fun for what promises to be a new kind of DeLorean Owners adventure. It's not too late to join in this Association event.

A change of the magnitude evidenced in this issue is exciting, not to mention very hectic. We were fortunate to have the new editor step in on short notice when we needed to fill the void. Jan Detanna, in charge of Creative, Design Development and Production, has come up with a new identity for DeLorean Owners around the world. His experience and expertise has been invaluable. Many people have stepped forward to help with this new magazine and their efforts are deeply appreciated.



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Travel • Technical • Lifestyle

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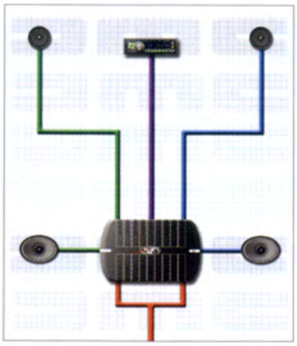

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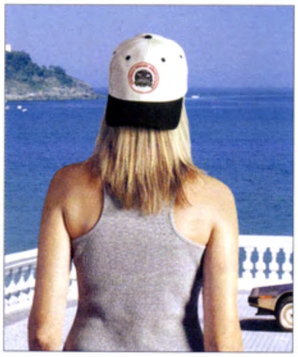

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Julie Johnson
photographed by
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▲ *Dorothy Gates & Julie Johnson*

ROADS, HISTORY AND MURDER

Story:
Dorothy Gates & Julie Johnson

It was a stormy weekend in late March. Forty Southern California DeLorean owners ventured out to participate in a weekend of mystery and fun in the Danish community of Solvang,

Our first stop was the "Flag Is Up Farms", the internationally known Monty Roberts Equestrian Learning Center. The group tour encompassed a short informational seminar on the farm, how it works and background information on the Monty Roberts Equestrian Learning Center. The premise of Mr. Roberts' work is "Violence is never the answer. Violence is always for the violator and never for the victim. No one of us was born with the right to say "you must or I'll hurt you" to any other creature, animal or human." Especially enjoying the presentation were DeLorean Owners Association members, Ed and Caroline Woods who own horses and live nearby.

Leaving the farm, eighteen DeLorean automobiles meandered along the back roads toward the quaint Danish style town of Solvang. Solvang is truly a unique community. Visitors from Denmark often attest to the authenticity of the town's buildings that feature "bindingsvaerk" walls (half timbered), tile, simulated thatch and copper roofs and cobblestone sidewalks.

It was a stormy weekend in late March...

The varied population of Solvang also includes the Chumash Indians who occupy a nearby reservation in the Santa Ynez Valley. Early settlers included a mix of Mexican and Spanish whose forbears built our next destination, the Mission Santa Ines.

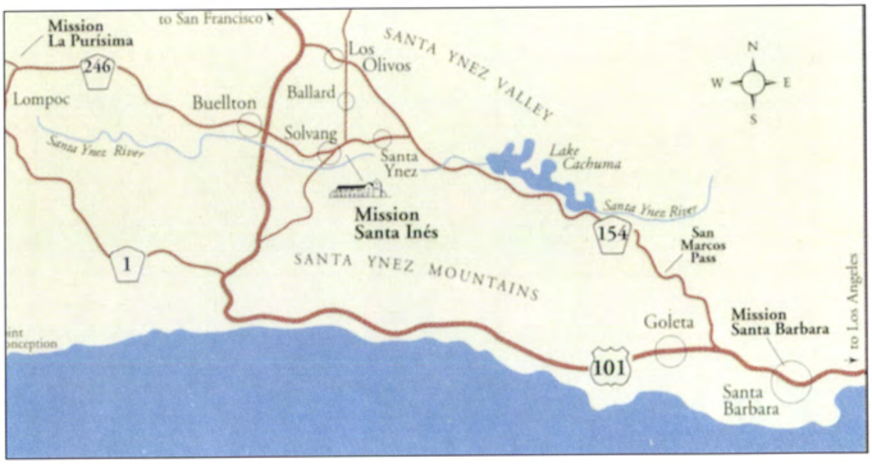
Mission Santa Ines was number 19 of 21 Missions built in California from 1769 to 1836 by Spanish Franciscan Priests led by Padre Junipero Serra. Located a short distance from downtown Solvang, the mission was built by Indian artisans, mechanics and other craftsmen and its primary purpose was to convert natives to the Catholic Faith. Mission life and artifacts are depicted in the mission museum near the semi-formal gardens, situated in a quadrangle surrounded by Mission walls.

Leaving the Mission, we headed for our final stop of the day, Firestone Winery for a tour, wine tasting and lunch. Established in 1972, Firestone was Santa Barbara county's first estate winery. This region is noted for its outstanding Chardonnay and Pinot Noir wines.

The end of a perfect day was topped-off by a hilarious pre-dinner mystery dubbed "Murder at the Marriott".

24 DeLorean Owners Association members dressed in western attire, depicting a fortune teller, cowboys, bankers, lawyers, a madam and her girls, a Pinkerton detective and a barber, exchanged stories and alibis regarding who shot the sheriff found dead near the bar in the lobby of the hotel. The 16 Association members who did not dress in costume for the evening's murder mystery still participated in the crime-solving scenario and everyone had a great time at the western barbecue dinner.

It's hard to believe how 40 DeLorean owners can be so off-the-wall after just a few hours of driving their DeLorean automobiles around the countryside. When these owners get together with the other DeLorean owners from around the United States on September 19th during the Northwest Passage driving adventure, it will really be a blast!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▲
Flag Is Up Farms

FLAG IS UP FARMS

Where Monty & Pat Roberts‘ have earned global recognition

Story: Connie Callincos
Photo: Allison West

Monty Roberts

Flag is Up Farms is the residence of Monty and Pat Roberts and it is located in the outstandingly beautiful Santa Ynez Valley, 35 miles north of Santa Barbara, California. This well established training and breeding farm has earned international acclaim through Monty's non-traumatic method of starting young horses. Crawford Hall is the assistant manager and new Dean of the International Learning Center at the farm, where residents come from all over the world to study Monty's techniques of "Join-Up".

Monty Roberts has traveled worldwide to talk about and demonstrate his method, which persuades an unridden horse to accept a saddle, bridle and rider in under 30 minutes without pain, fear or trauma. Among those who utilize Roberts and his methods are Queen Elizabeth II of England and the leading breeding and racing Thoroughbred farm in Germany, Gestüt Fahrhof, owned by the Walther Jacobs Family.

Monty Roberts' autobiography. "The Man Who Listens To Horses" has sold over 4.5 million copies worldwide, and his second book, "Shy Boy; The Horse Who Came In From The Wild" was also a New York Times best seller. Horseman/author/lecturer, Monty recently finished his third, "Horse Sense for People" and his fourth, "From My Hands To Yours", will be out this fall. This is the ultimate horsemanship book describing in detail his unique methods.

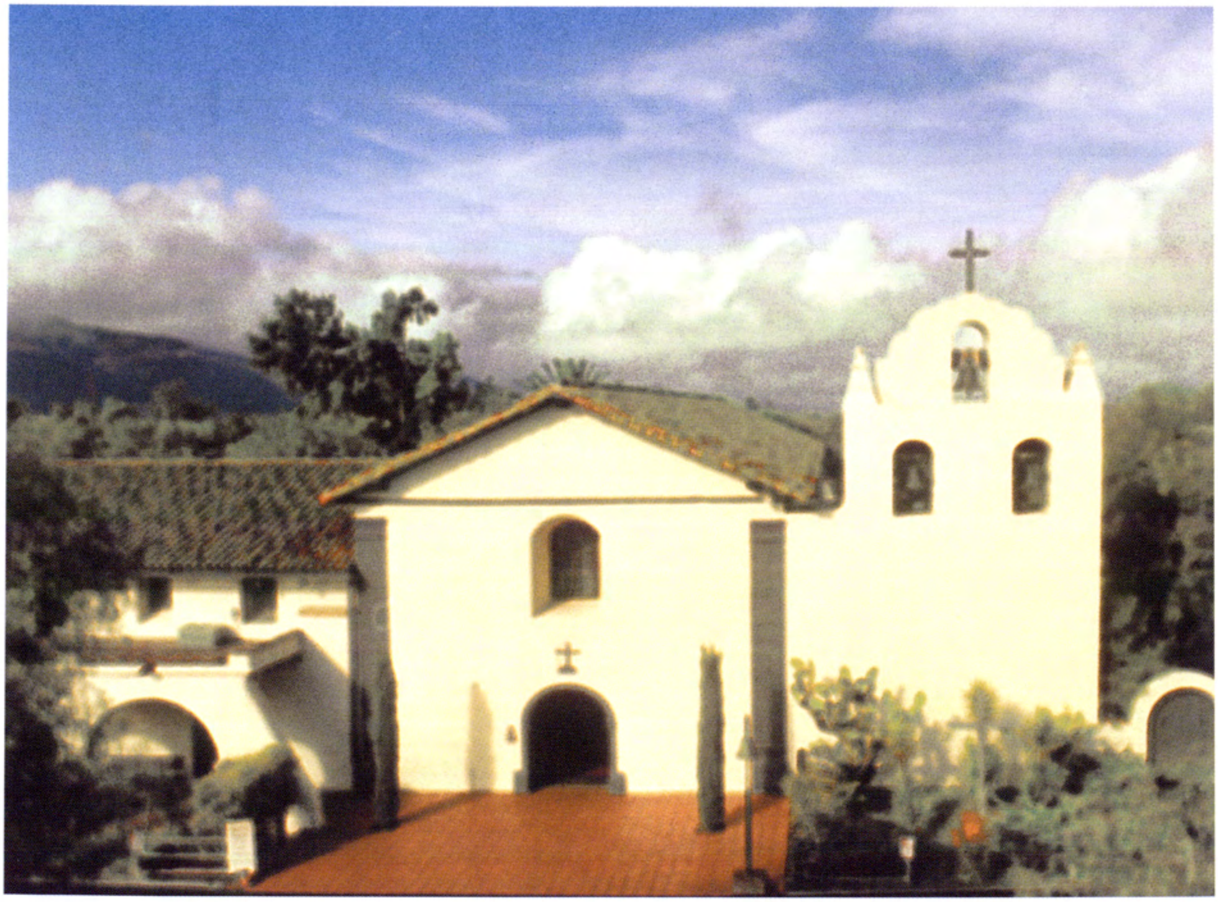
Pat Roberts has demonstrated her "hands-on" horsemanship with over 20 performance and halter champions. Pat's first love is breeding and she spends a great deal of her time promoting stallions and watching over the crops. Pat is now as well known as an artist, as Monty is an author, with her equine sculptures attaining worldwide acclaim and recognition. Her sculptures are included in the collection of the European Museum of Art, the Osborne Gallery in London and her home studio on Flag Is Up Farms.

Flag Is Up Farms' immaculate training center includes stabling for 100 horses, grass and sand turnout paddocks, two covered round pens, a 24,000 square foot covered riding arena, USDA approved quarantine facilities, a 5/8 mile training track with 1/4 mile chute and starting gate, as well as a training center that offers complete care with a 24-hour resident staff veterinary care.

The Flag Is Up breeding facility includes a 13-stall breeding barn and the breeding operation includes over 100 acres in pastures, breeding, foaling and mare care facilities with 24-hour surveillance.

OLD MISSION SANTA INES FOUNDED 1804

Photos & Story:
Courtesy of Susan Megliola



Laid in the rolling hills of the Santa Inez Valley, it has one of the loveliest of any Mission settings and has been called the "Hidden Gem of the Missions".

The story of Mission Santa Ines has been a rather turbulent one almost from its beginning. As the first Mission in California founded in the 19th Century, it expanded rapidly. The Mission was rich in cattle and produce; its craftwork was known and used throughout the Province.

It claimed distinction as a center of the instruction of Chumash Indians and the location of the first College or Seminary in what was to be the State of California. Early success carried on to strong material prosperity at Santa Ines, which at its peak owned 13,000 animals.

After the Indian rebellion of 1824, Mission Santa Ines, like most other Missions, experienced some measure of decline.

GRAB IT WHILE YOU CAN!

The DeLorean World Gold Collectors Set

This is one of those opportunities that comes along once in a lifetime - a chance to get all the back issues of DeLorean World magazine before they are gone forever.

As you can see, the format of the magazine has changed dramatically, so this makes the old-format issues even more desirable to collectors.

Next year, when this set starts selling on E-Bay for twice the price, you'll kick yourself if you didn't grab up at least one.

The DeLorean World Gold Collector Sets are available, while they last, for only $495 each including shipping anywhere in the world. The sets include all 72 back issues and 5 binders.

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UPGRADING
THE AUDIO SYSTEM IN THE DELOREAN AUTOMOBILE

Story: Isaac Goren, Sounds Good Audio & Security
www.sounds-good-stereo.com

The DeLorean automobile is a rare and unique vehicle that has a factory audio system consisting of an in-dash (shaft mount) AM, FM Cassette Radio with (2) 3 1/2" speakers under the front dash and (2) 4"x 10" speakers behind the rear quarter panels.

Early models of the automobile had a radio antenna embedded in the windshield located just below the lower edge of the windshield header panel. Unfortunately, this application did not deliver ideal reception on the AM band and a replacement fixed antenna was quickly authorized by the factory to rectify the deficiency.

The right front fender fixed antenna worked much better than the windshield model. However, owners generally did not like the way it interfered with the clean, aerodynamic design of the car. Later production models of the vehicle had a power antenna mounted inside the left rear quarter panel of the car, concealed in the vacuum canister area and secured beneath the LH quarter panel air induction vent. This later model electric antenna raises when the radio is turned-on and retracts when it is turned off.

Late model electric antenna kits are available and can be installed in any production model DeLorean automobile in the event the owner wants to improve the aesthetics of an earlier car with a right front fender mounted, fixed antenna or the reception of a car with the windshield style. An existing right front fender fixed antenna can be removed and the 1" mounting hole invisibly repaired to original condition for a few hundred dollars. However, owners desiring to retain the originality of their cars for investment purposes or Concours d'Elegance competition may want to think twice before modifying their DeLorean antenna location.

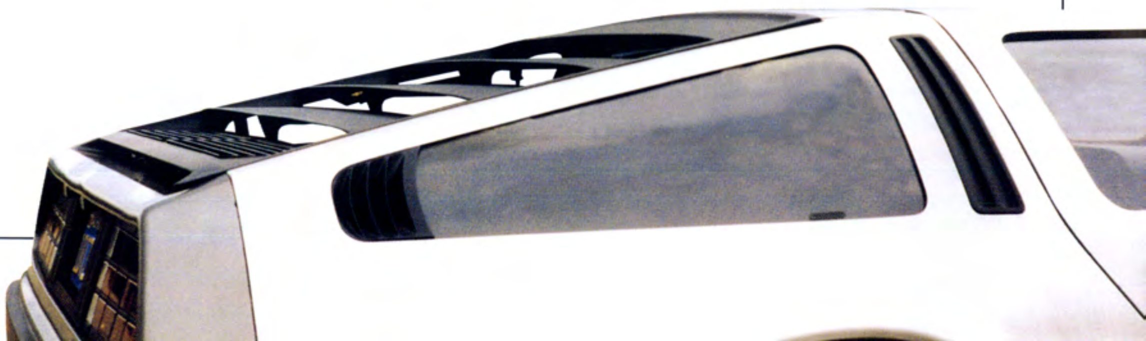
The digital display in the early, original factory radios sometimes would show incomplete numerals and/or disappear completely. This malfunction was traced to the electrical wires in the flexible cassette door. Sometimes an owner would leave a cassette in the player when leaving the car. If the ambient temperature would turn substantially colder, the plastic, flexible cassette door would become rigid and break the display wires when the cassette tape was removed.

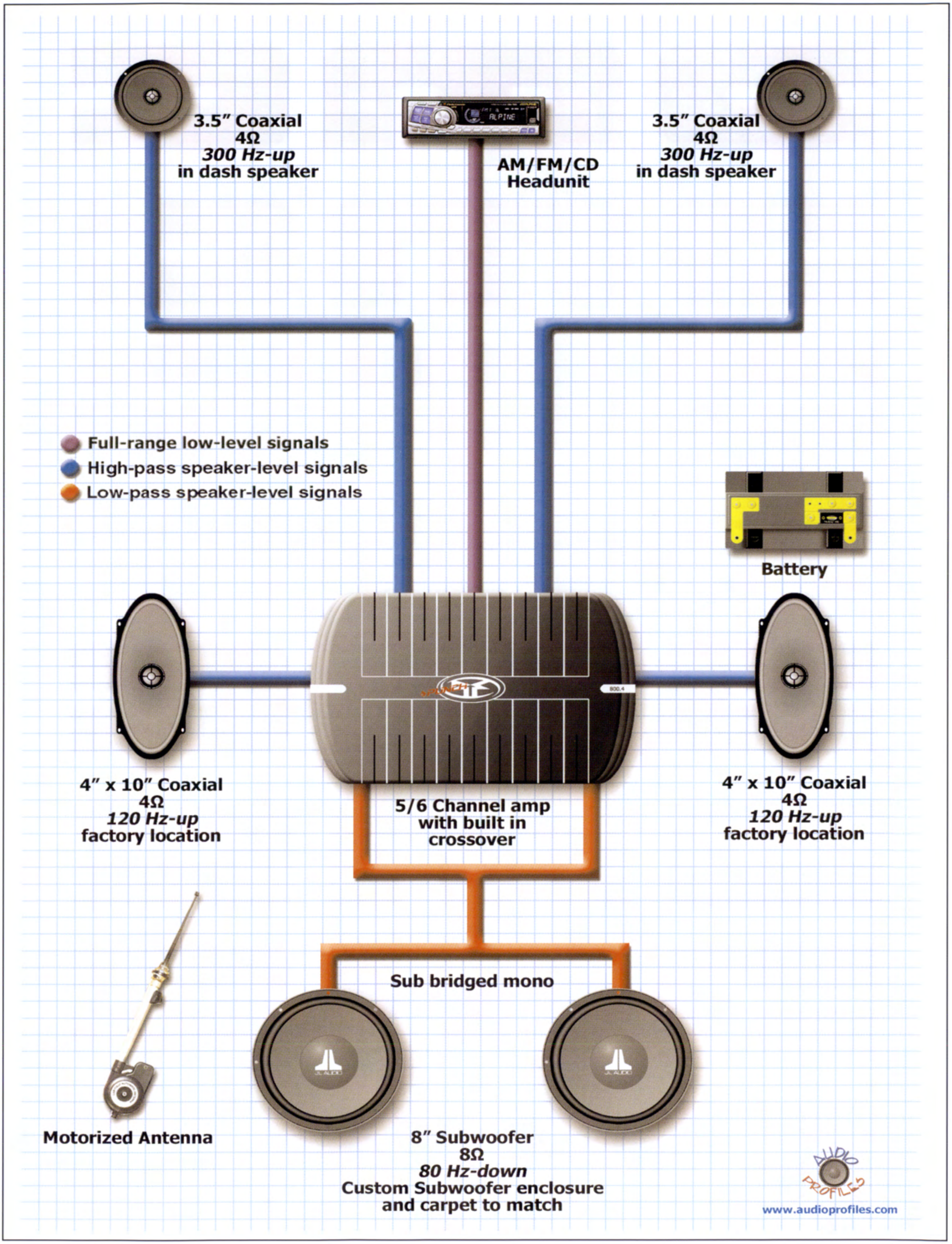
The following considerations should be investigated prior to replacing your factory original sound system.

NOTE: All aftermarket electronics power leads should be wired directly to the car's battery with protection (fused).

Head unit: If you are not replacing the existing radio with a factory original unit, it is important to replace the radio with a unit that will have proper signal / pre-amp to control external amplifiers. A new in-dash unit can also include an AM / FM / CD / CDR / MP3 player. Having 3 pairs of pre-amp RCA output will permit the addition of a 5 or 6 channel amplifier with separate controls from the radio for each speaker. We must remember that the only major change to the car when upgrading the audio system is the radio mount. All new style radios are DIN mount. Therefore, the radio/vent and switch-mounting panel has to be modified to accommodate a 2" high by 7" wide opening.

Speakers: Replacing the front and rear speakers with two way (coaxial) will give us a fuller sound. The dash speakers must have XTC baffles added to achieve more air suspension. The rear speakers should have Accumat




3.5″ Coaxial
4Ω
300 Hz-up
in dash speaker
AM/FM/CD
Headunit
ALPINE
3.5″ Coaxial
4Ω
300 Hz-up
in dash speaker
Full-range low-level signals
High-pass speaker-level signals
Low-pass speaker-level signals
Battery
800.4
4″ x 10″ Coaxial
4Ω
120 Hz-up
factory location
5/6 Channel amp
with built in
crossover
4″ x 10″ Coaxial
4Ω
120 Hz-up
factory location
Sub bridged mono
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Motorized Antenna
8″ Subwoofer
8Ω
80 Hz-down
Custom Subwoofer enclosure
and carpet to match
AUDIO PROFILES
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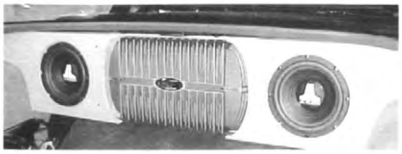
Design, install and secure 3/4" MDF wood on rear wall.

Custom design and build a back wall to house the amp and speakers.

Build separate compartments for the two 8" subs.

Overview of custom amp rack with subs before carpet, amp and speakers installation.

The custom MDF board is covered with Ozite material to match the interior. Amp installed in center with 12 gauge speaker wire for subs.



Custom amp rack with subs ready for final touches like grilles, carpet and and factory covers to be placed back into car.

The DeLorean automobile is a great car that can support numerous additional electronic devices. However, one must always remember the importance of system design and installation. The original Delorean sound system is a relatively simple design, but it can become more sophisticated and up-to-date when the electronics are expanded or components added.

(dampening material) added to enhance the lower frequencies. Replacing the rear speakers will require the extremely careful removal of the interior rear quarter panels. It is suggested that only a professional audio installer perform this procedure.

Subwoofer: Adding subs to the audio system will complete the audio system. It will enhance the lower frequencies. Since bass is non-directional, it can be installed in any position/location of the car. I would recommend two 8" subs to two 10" subs. Since the area is very small, there is no need for very large subs. The subs can be installed in the compartment behind the driver seat. A custom enclosure can be made to accommodate the subs on the rear tray deck. There are other options available.

Amplifier: The amplifier is the heart of the audio system. It will give a full, clean audio signal to run the speakers properly. A good 5 or 6 channel amplifier will have a built-in cross over for all the speakers. It will drive the front speakers as high pass (300hz) and will provide a separate setting for the rear speakers (120 Hz) high pass. Therefore, our front and rear speakers have been set up as satellites with no low notes of information. The sub will receive the low notes (low pass 80 Hz). Control of the gains and crossover will be adjustable on the amp. And, the head unit for the driver will move the staging from front to rear speakers as well as controlling the volume of the subs.

Options: The power antenna function can be set up so that when playing the CD portion of the audio, the antenna retracts and will extend only when the radio is being selected.

Adding a CD changer can be done. (6 to 12 discs). The radio can be a cassette tape deck with an optional CD changer.

A cellular phone kit can be added which interfaces with the audio system. A special hidden antenna for a cellular telephone is also available that will increase the quality of reception.

GPS for navigation is up-and-coming and can be integrated with the audio system, thereby providing voice activation.

In addition, GPS tracking for location that can be monitored by the owner on a special web site is available.

Alarm systems today can do just about everything that one can imagine.

Radar detectors are available which permit all the components to be hidden (stealth). Included are 3 radar bands as well as a laser defuser.

Satellite XM Radio (over 100 stations) is available that can interface with the audio system or can be made a part of the main radio.

Recommended Manufacturers: Eclipse, Alpine, Rockford Fosgate, JL Audio, MB Quart, Code-Alarm, Diamond Technologies, Nokia, EFX, K-40 Electronics.

To be continued

GLOSSARY

Balance: The condition of a stereo system in which both channels are reproducing at the same level.

Bridged: The condition that exists when a load is connected across two active channels that are fed with the same input signal, but one of the channels is operated out-of-phase with respect to the other.

CDR: CD's that are custom recorded.

Channel: One half of the electrical and acoustical requirement for a basic stereo system. When two channels are reproduced correctly, the stereo effect will reproduce images across a soundstage.

Circuit Breaker: A re-settable protection device that is similar to a fuse that never needs replacement.

Coaxial: Two-way speaker with separate driver and tweeter. One speaker (driver) will play from about 20 Hz to about 4,000 Hz. The other speaker known as tweeter will play from about 4,000Hz to 20,000Hz.

Crossover Point: The frequency at which a crossover delivers equal power to each of its outputs.

Damping: The process of reducing or eliminating vibrations, reverberations and/or oscillations.

DIN: The initials stand for German Industrial Standard and in car audio can be used to describe a standard dash opening for a deck or a multi-pin connector used in lieu of a RCA connector.

Driver: Another word for a speaker. (e.g., When two 4-ohm drivers are wired in parallel, then that presents a 2-ohm load to the amplifier.)

Enclosure: A mechanical device designed to improve the performance of a loudspeaker.

Fader: The control that varies the amplitude of the front vs. rear sound.

Frequency Response: How well a circuit or system transmits the frequencies that are applied to it. (e.g., The frequency response of my new amplifier was virtually flat from 20 Hz up to 20,000 Hz.)

Frequency: The number of events or cycles that occur in a time period, usually one second. Frequency is measured in Hertz (Hz), which are the number of cycles per second. (e.g., Humans can experience sound from 20 Hz to over 20,000 Hz.)

Fuse: A simple device that limits the current flowing in a circuit and therefore protects the alternator, battery, electrical wiring, and the components. The current flow is disrupted when the fuse element melts and opens the circuit.

Gain: The difference in the amplitude of two signals. This is commonly used to compare the input and output of an electronic component.

GPS: Global Position Satellites. Introduced in the 60's, built and used by the government to assist in tracking location for military use. Today, GPS is available for everyone. With the use of electronic components (all type) you can communicate with a few satellites (GPS) and receive information of your location using longitude & latitude. For proper use of GPS location you will need at least 3 satellites.

Grilles: Metal ring used to cover speakers to protect them from getting damaged.

Head unit: The main radio or main source of electronics.

High pass: A filter that permits the highs to go through, but attenuates the lows.

Hz (short for Hertz): The term that stands for events or cycles per second. 1 kHz=1000 Hz, 1 MHz=1,000,000 Hz, 1 GHz=1,000,000,000 Hz. (e.g., A frequency of 50 Hz means that something is repeating 50 times per second.)

Imaging: When two or more channels are reproduced in such a manner that our brains are tricked into hearing something that does not really exist. A phantom center is created when identical mono information is reproduced in two identical loudspeakers with a listener seated in between and in front of the two speakers.

Impedance: Resistance to the flow of alternating current. (e.g., The resistance of a speaker's voice coil may be measured at 3.1 ohms, but the impedance of that speaker may be 10 ohms at 50 Hz.)

Line level: The signal output of a deck or component that is usually not run through the speaker amplifier stages. Therefore the signal is much cleaner and more suitable for amplification. (e.g., The signal line level output of a good quality deck will often exceed 3 volts.)

GLOSSARY

Low pass: A filter that passes low frequencies and attenuates high frequencies.

MDF: Special pressed wood that is very dense and strong. It is also very light. This special wood is used to build sub enclosures and amp racks in cars.

Midbass: The range of frequencies just above the subwoofer and just below the midrange. (e.g., A good midbass driver will handle the bandwidth of 80 Hz up to 200 Hz.)

Midrange: The range of frequencies that lie between midbass and the high frequencies. (e.g., A good midrange speaker will handle from 200 Hz up to 2 kHz.)

MP3: Compressed recorded music used to allow more songs to be recorded onto one CD. MP3 is new format for recording and play back. There is a loss of information when MP3 is used.

Ohm: The basic unit of electrical resistance. (e.g., One ohm is defined as the resistance that causes one volt to drop for each amp flowing through the resistance.)

Ozite: Type of carpet that is indoor and outdoor. It is strong with no backing. Will allow music to play through.

Passive: The type of circuitry that does <I>not<P> require external power, but rather uses only basic circuit elements such as capacitors, inductors, and resistors. (e.g., We used two capacitors and one inductor to make a 6 dB/octave passive crossover for our midrange speakers.)

Power amplifier: The final stage of amplification. (e.g., You must use a power amplifier to drive your speakers.)

Preamplifier: The first stage of amplification in which the amplitude of a very low-level audio signal is increased. (e.g., Most car audio decks have four separate preamplifier outputs that correspond to the Front Left, Front Right, Rear Left, and Rear Right channel outputs.)

RCA: Cables that are used to carry the signal from one source to the next. In this case the RCA is used to carry the signal from the radio to the amplifier.

RCA jacks: The coaxial connectors commonly used to interlink components in the world of car audio. (e.g., My AM/FM/CD player has four RCA jacks that send the signal on to my four channel amplifier.)

Sealed enclosure: The type of woofer box that separates the back wave from the front wave and still contains the back wave within the box. (e.g., You should use a sealed enclosure only if your woofer was designed for that type of box.)

Subs: Also called Subwoofers. Larger speakers from 8" in diameter and up that can handle low frequency. These speakers are used to reproduce low notes "bass". They are usually tuned to play from 20 Hz to 100 Hz. Subs are non-directional and create bass by moving air. The larger the cone area the more air it will move. Subs require lots of power. A special enclosure is needed for different subs. The enclosure type and size is related to the sub specifications.

Tweeter: A speaker designed to reproduce only the high frequencies such as 3500 Hz and above.

Volt: Basic unit of potential difference. We often talk about car audio system as a 12-volt world because our car batteries supply a nominal 12 volts. (e.g., A potential of one volt will cause one amp of current to flow through a resistance of one ohm.)

Watt: The basic unit of power. From Ohm's Law we learn that power (measured in watts) dissipated by a load is equal to the voltage placed across that load multiplied by the current flowing through that load. (e.g., Whenever a current of 20 amps flows through a resistor with 12 volts across it, that resistor will have to handle 240 watts of power.)

XTC: Type of baffle that is used to assist the speaker in becoming more air suspended in open area. This product made out of foam will enclose the speaker from behind and allow the music to move forward (one direction).

dw magazine

Travel • Technical • Lifestyle

EDWARD R. BERNSTEIN
Editor/Director

JAN DETANNA
Design/Production
Creative Link, La Crescenta, CA 818.957.1976

DAVID JOHNSON
Associate Photographic Editor/Concepts

WAYNE ORTENBURGER
Associate Copy Editor

Contributing Writers:
Tokyo: **MITO FUJITA** Belfast: **ROBERT LAMROCK** Los Angeles: **LINDA PORTER, DAVID KNUDSON, DOROTHY GATES, JULIE JOHNSON, ISAAC GOREN, DICK SHIPMAN**
Trenton: **ROBERT PETRUSKA** Solvang: **CONNIE CALLINCOS, SUSAN MEGLIOLA**

Art
JAN DETANNA, Creative Link
LYLE ENGLESON, Audio Profiles

Photographers
Tokyo: **YUZO TAKAI** Los Angeles: **JUAN CARLOS** Woodland Hills: **ISAAC GOREN** Solvang: **ALLISON WEST**
New Jersey: **DORIS PETRUSKA** Florida: **JEFF CASTILLO** Sacramento: **JOHN C. WORSLEY**
Portland: **SALLY MCALEER, MARY DEMENT SMITH**

Contributing Photographic Sources:
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Advertising:
JAMES HALES, 2651 Altamira Drive, West Covina, CA 91792 626.965.5190

Products:
THE DELOREAN STORE, 835 Church Street, Ventura, CA 93001-2014 805.641.3161

Translation:
YASUKAI IKEDA
Owens Export Services, Inc., Chatsworth, California

Models: **JULIE JOHNSON, MIGUEL PONCE DE LEON**
Hair Stylist/Make-up: **LAURA WASHOCK**

Membership/Subscriber Service:
JOHN TRUSCOTT, DeLorean Owners Association, 879 Randolph Road, Santa Barbara, CA 93111 805.964.5296

TECH

THE CLUTCH

Text: Ed Bernstein
DeLorean One, Chatsworth, CA

Factory records indicate that approximately 25% of the entire production of DeLorean automobiles consisted of cars with automatic transmissions. The remaining 75% of the overall production were manual transmission cars using a clutch.

This is the initial installment in a series of articles that will describe the clutch, its components and its function in your DeLorean automobile. Subsequent articles will address clutch malfunctions, and suggested diagnostics used to evaluate related problems.

The basic function of the clutch is to engage and disengage. It is involved in three fundamental features.

1. *The comfort and smoothness of the drive when starting each gear change.*
2. *The filtering of engine vibration and noise.*
3. *Protection of the engine and transmission by playing the role of a fuse. ie: to slip under extreme conditions or tear-out when the car is driven too aggressively.*

The vehicle, when equipped with the 5 speed manual transmission, uses a single, dry type clutch. The clutch is hydraulically operated. The pressure plate is a diaphragm spring type and the disc has a spring cushioned hub. A self-aligning, sealed ball-type throw-out bearing is used to depress the diaphragm spring. The clutch has its own fluid reservoir and master cylinder that provides hydraulic pressure when the clutch pedal is depressed.

The clutch pedal is connected to the master cylinder with a push-rod. When the pedal is depressed, the push-rod exerts pressure against the master cylinder piston. The slave cylinder piston pressure causes the clutch fork to move the throw-out bearing against the pressure plate. As a diaphragm spring is depressed, pressure on the disc is released and the clutch disengages. When the clutch pedal is released, the procedure is reversed and the clutch engages.

The clutch controls consist of a mechanical pedal assembly and a hydraulic control system. A clutch master cylinder, connected to the pedal assembly, converts mechanical movement into hydraulic movement. This pressure and movements is transmitted through a hydraulic line to the clutch slave cylinder, where it is converted back to mechanical movement. The slave cylinder, connected to the clutch assembly, moves the clutch fork and clutch release bearing, thus engaging or disengaging the clutch mechanism.

The hydraulic clutch system is self-adjusting; therefore no provisions are made for adjustment.

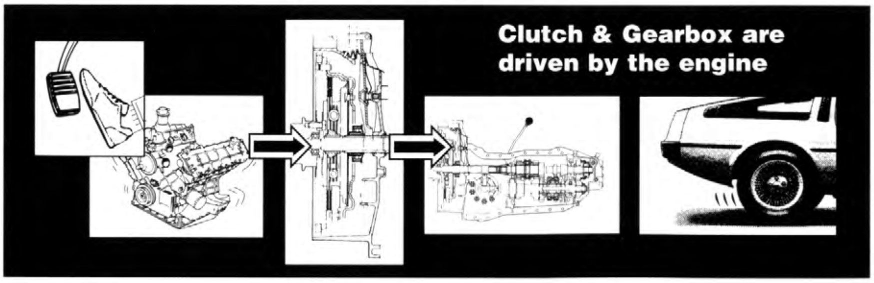
3 PRIMARY FUNCTIONS OF THE CLUTCH

USE OF THE CLUTCH

1. To transmit drive to the gearbox.
2. To allow connection and disconnection.
3. For the driver to be able to control the connection or disconnection. (the biting point)

THE 3 POSITIONS OF THE CLUTCH

ENGAGED I. *To transmit drive to the gearbox, thereby assuring connection between the engine and the gearbox. (Engaged)*



"ENGAGED" POSITION OF THE COMPONENTS.

A. Release bearing - no contact with the diaphragm when foot is off the pedal.

B. The pressure plate - the diaphragm exerts its power onto the pressure plate. This compresses the clutch disc against the flywheel.

C. The clutch disc is independent to the fly wheel and the relationship between the engine and the gearbox is effective.

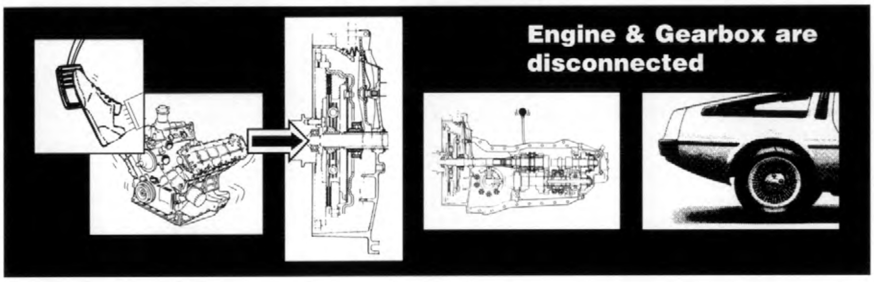
"ENGAGED" MOVEMENT OF THE COMPONENTS.

A. The flywheel turns, it drives the cover/diaphragm/pressure plate assembly.

B. The load on the pressure plate clamps the clutch disc causing the rotation of the gearbox primary shaft.

C. The control system is at rest; therefore the clutch release bearing is stationary.
Stationary - clearance between the clutch release bearing and the diaphragm fingers.

DISENGAGED II. *To provide connection and disconnection to the engine. To break the connection, (disengaged) engine and gearbox are disconnected.*



"DISENGAGED" POSITION OF THE COMPONENTS.

A. With the action of the pedal, the fork has depressed the clutch release bearing.

B. The action above has caused the diaphragm to pivot about the fulcrum.

C. The diaphragm has released its clamp load on the pressure plate.

D. The clutch friction disc is allowed to move on splines on the gearbox primary shaft. When disengaged, the clutch disc backs away from the flywheel.

E. The clutch disc is now totally free: it is no longer in contact with the pressure plate or with the flywheel.

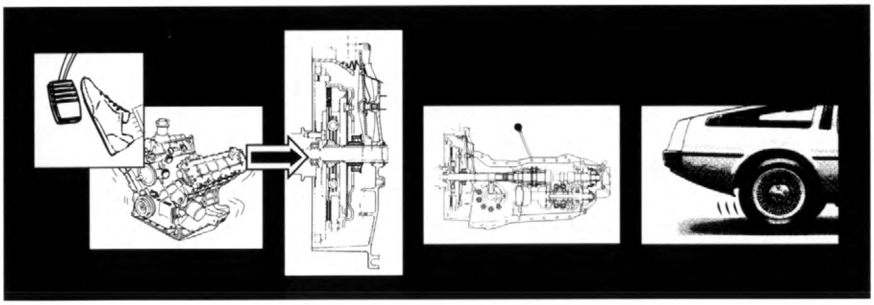
"DISENGAGED" MOVEMENT OF THE COMPONENTS.

A. The flywheel turns; it still drives the cover/diaphragm/pressure plate assembly.

B. The clutch friction disc is free: it is no longer driven by the flywheel and no longer drives the gearbox primary shaft.

C. The release bearing is totally active: rotating with engine speed.

SLIPPING III. *The driver can control the rate of engagement. Intermediate position/ slipping; clutch and gearbox are partially driven by the rotation of the engine (the biting point).*



TECH

THE CLUTCH

"SLIPPING" POSITION: POSITION OF THE COMPONENTS.

- **A.** The clutch release bearing occupies a mid-position on its travel, it maintains the diaphragm partially pivoted.
- **B.** The diaphragm exerts part of its clamp load onto the pressure plate.
- **C.** The pressure plate now partially grips the clutch friction disc allowing slip.
- **D.** The clutch disc has moved on the splines and is in contact with the flywheel and the pressure plate.

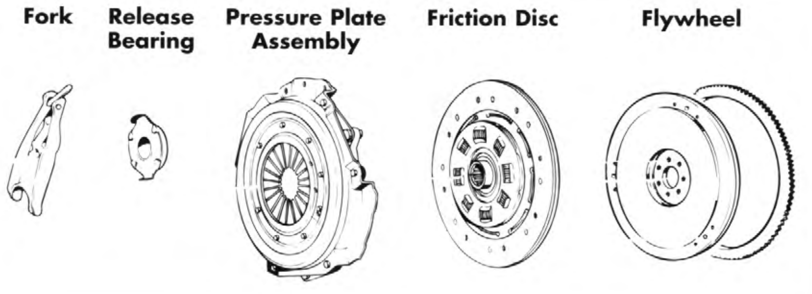
"SLIPPING" MOVEMENT OF THE COMPONENTS.

- **A.** The flywheel turns and rotates the cover/diaphragm/pressure plate assembly.
- **B.** The clutch friction disc turns slower or quicker than the flywheel and cover/diaphragm/pressure plate assembly. There is friction between the surfaces. (clutch slip)
- **C.** In rotating, the clutch disc drives the gearbox primary shaft.
- **D.** The release bearing turns at the same speed as the cover/diaphragm/pressure plate assembly.

Essential Points to remember:

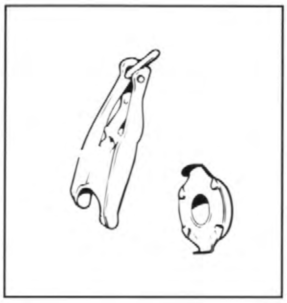
1. The clutch serves to establish, release and control the transfer of power from the engine to the transmission. These 3 functions correspond to 3 clutch positions: ENGAGED - DISENGAGED - SLIPPING
2. The aforementioned functions are achieved by the three main components of the clutch: THE RELEASE BEARING - THE COVER/DIAPHRAGM/PRESSURE PLATE ASSEMBLY - THE CLUTCH DISC.

Elements of the Clutch



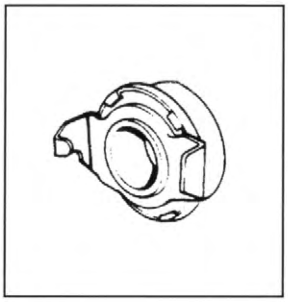
The Control System

1. Release bearing guide
2. Fork
3. Crossgate cable
4. Clutch pedal



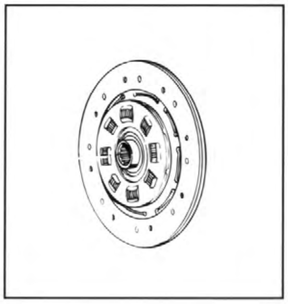
The Release Bearing

1. Carrier
2. Bearing
3. Back Plate



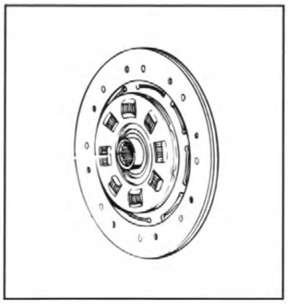
The Pressure Plate Assembly
(The component which engages and disengages the driven/friction clutch disc).

1. Cover
2. Diaphragm
3. Pressure plate



The Driven/Friction Clutch Disc

1. Lining
2. Disc
3. Springs
4. Gearbox input primary shaft



The manual transmission is a constant mesh five speed. All forward gears are fully synchronized for ease of shifting.

All gears are selected manually by the driver using the gearshift lever attached to the selector lever mounted on the side of the transmission rear housing. Inside the rear housing, a selector shaft arm, attached to the selector shaft, fits through a slot in the pivoting interlock. When a gear is selected, the selector shaft arm moves the interlock to the desired position and moves the appropriate shift rod in or out depending on the gear selected. The shift fork attached to the shift rod moves the desired gear into the proper position while the synchronizer ring matches the speed of the two gears being coupled.

The shift sequence is repeated for all forward gears. Reverse operation is the same with the exception of the synchronizer ring, which is not required, since the vehicle should be stationary when shifting into reverse.

(To be continued)

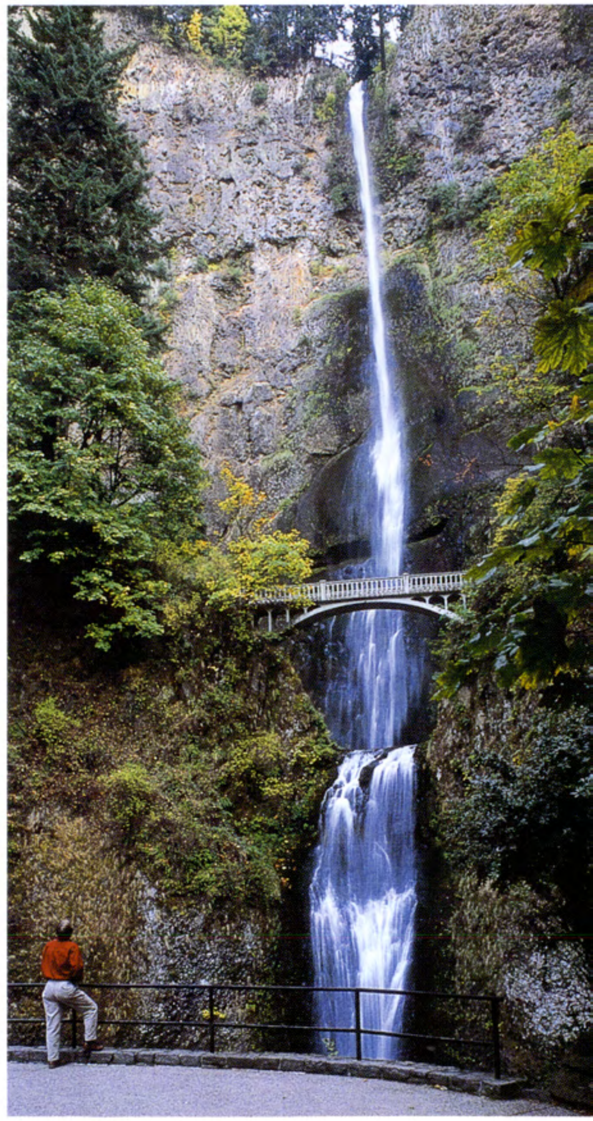
NORTHWEST PASSAGE

Story: Linda Porter
Photos: Mary Dement Smith, Sally McAleer; Portland Oregon Visitors Association; Visitors Association, Lane County, Oregon

The romance of the open road and the lure of seeing new places, both will be part of the DeLorean Owners Association's Northwest Passage. From September 19th until the 21st, those attending this event in Oregon will have a chance to experience some of the best the Pacific Northwest has to offer. Most recent Association conventions have been just that – conventional. While there is nothing wrong with that, we think it's time for a change. Anytime we meet in a new place, it's part of the program to get to know the region. This year's event should expand that concept even more. By traveling from town to town and staying in a different place each night, we'll have an opportunity that might not be possible if we stayed at one hotel for 3 days.

WHATEVER YOUR PLEASURE, YOU'RE SURE TO FIND IT IN THE PACIFIC NORTHWEST.

◀ *Mt. Hood/Portland Skyline*



▲ *Multnomah Falls*

Starting in Portland, Oregon, those arriving early will want to take in the casual atmosphere of Portland's downtown area. From coffeehouses and fine dining to Irish pubs, it's all here for the enjoying. If you are arriving before the 19th, plan to stay at The Sheraton Four Points Hotel, which will be our starting point for the 3-day drive. Nicely situated downtown, you can walk around and enjoy the surrounding areas.

One of the local attractions within easy walking distance from the hotel is the Yamhill Historic District. In the mid-1800s this was the hub of the booming commercial trade and home to a busy public market. Elaborate cast-iron storefronts were constructed and those blocks that still remain are protected on the National Register. Walking west along Yamhill Street, you'll come to Pioneer Place, as close to a Town Square as you'll find in a city this size. Here you can shop, eat, or just relax and watch the people go by.

Association board members coordinating this event will be arriving in Portland on the 18th, and staying at The Sheraton Four Points Hotel. Plan to stop by that evening and pick up your registration packet and passport. If you are joining us somewhere along our route, we'll have those items for you.

The next morning, the 19th, will find us leaving Portland for points west. For those people who live in the area, a meeting site has been chosen on Highway 26, just west of town. Once everyone has joined the caravan, the route continues along Highway 26. Turning south, we'll drive along back roads and through small towns like Wheeler, population 350. Along the coast, on Highway 101, we'll see Garibaldi a town of 1,000 named for the Italian patriot considered to be the father of his country. Fishing is an important part of Garibaldi, both sport and commercial. Other small communities dot the coastline; Brighton, Rockaway Beach, Twin Rocks and Barview.

PORTLAND
TODAY
OREGON SYMPHONY
CHO-LIANG LIN
FEBRUARY 12-14

▲ Downtown Portland

Old Town Florence ▶

▲
Mt. Hood

Tillamook seems like a perfect place to stop for lunch. In addition to two cheese factories, you'll find a sausage factory and various seafood restaurants and factories. There is sure to be something tasty for every palate.

By mid-afternoon, the driving will be over for the day. Checking into the Inn at Spanish Head at Lincoln City, drivers and passengers will find themselves right on the beach overlooking the Pacific Ocean. If you want to take a walk, Lincoln City has 7 miles of public beach to comb. One of the most prized treasures of any beachcomber is a Japanese glass fishing float. I still remember the excitement of finding one floating just off the beach in Hawaii. In today's modern world, the floats are made of plastic, so finding a glass one is extremely rare - unless you're in Lincoln City. The town sponsors an annual project that finds volunteers hiding beautiful floats made by Northwest artisans. Hidden between the vegetation border and the high tide line, fresh batches of floats are hidden each week, just waiting to be discovered. Each float is marked with the year and "Lincoln City", making a colorful and unique keepsake of a visit to this part of the Oregon Coast.

Association festivities start in the late afternoon with a presentation by Brian and Dorothy Gates along with Dave and Julie Johnson. These enthusiastic car show buffs will share their detailing secrets. Both couples have beautiful DeLoreans so they must be doing something right.

The evening meal will be served inside, but will be cooked outdoors on the beach. Whole salmon is butterflied and secured to Alder stakes, then cooked over an open flame. Many resorts offer this style of salmon, which is unique to the Pacific Northwest, but I figured that the addition of cooking it on the beach was too good to pass up.

If there are people who want to stay up late after dinner, Lincoln City is home to the Chinook Winds Casino. Open 24 hours daily, the Casino offers slots, fast-action table games and bingo.

Friday morning will find the group headed east to Portland. As I mentioned in the last issue of DeLorean World, we will stop to view The Spruce Goose at the Evergreen Aviation Museum in McMinneville. There will be other stops along the route, however the goal will be to arrive at our evening's destination, The Governor Hotel, before the Friday night rush-hour traffic begins.

Once at the Governor, there will be time to relax, take a walk and attend the Technical Q & A session planned before dinner. A reception and elegant banquet is planned, with a choice of boned Cornish Game Hen with a Mandarin Orange Thyme Glaze or Pork Loin Chop and Jumbo Prawn. If requested, a vegetarian entrée will be available. As with any evening shared by DeLorean owners, there will be stories to share and tales to tell before everyone calls it a night.

Saturday morning and the driving tour continues east headed to the area's premier touring region. Within 70 miles you'll find the state's highest mountain and the most magnificent river. Easily accessible is Washington State, just across the Columbia River. Interstate 84 runs along the Oregon side of the river, but you'll probably want to check out the Historic Columbia River Highway Scenic byway, the more leisurely route. Several waterfalls are close to the highway, with Multnomah Falls holding the title as Oregon's most popular attraction.

THERE WILL BE STORIES TO SHARE AND TALES TO TELL.

Driving around the backside of 11,239-foot high Mt. Hood, we'll take Highway 35 to 26, where we'll turn west to the tiny mountain community of Welches, our last stop on the tour. The Resort at the Mountain has been a getaway resort for over a hundred years. Don't expect to find any of the original camp tents however. This resort is modern and comfortable. The owners have recreated a bit of Scotland in the Highlands of Oregon, which is very fitting since The Resort at the Mountain also boasts a premier golf course.

After an evening spent outdoors playing in the fast-moving croquet tournament and enjoying a barbecue, the group will spend their last night relaxing and enjoying the company of their fellow travelers. The next morning, Sunday, will see participants leave for various destinations.

I hope that many people will take advantage of other sights and places that this region has to offer. Oregon has seven diverse regions and we will only have time to see a small part of a few of them. If you retrace the path from Welches to Highway 84 and continue east, you will experience pioneer trails, and witness the effects of geological upheavals. Just east of the small town of Cecil you will find the most dramatic evidence of Oregon Trail wagon ruts.

There are many more seaside towns to visit and much more windswept coastline. Above Florence, is picturesque Heceta Lighthouse. If it looks familiar, it may be because it is the most photographed lighthouse in the U.S.

For city lovers, a return to Portland may be in order. Known as "The City of Roses" there are parks and gardens to see. Book lovers will want to see Powell's City of Books, which is America's largest new and used bookstore. Plan to stop at Pittock Mansion, built around 1914 by Henry Pittock, the founder of The Daily Oregonian. This restored French Renaissance mansion sits 1,000 feet above the city offering a panoramic view of Portland and the distant mountains.

▲
The Grotto

For those that can't get enough of the mountains, this state is for you. In southern Oregon you'll find Crater Lake and help celebrate it's 100th anniversary as a National Park. On a clear day the lake will be the bluest blue imaginable. For the outdoor enthusiast, hiking trails are everywhere. After days spent driving, a walk or hike may sound like a great idea.

Whatever your pleasure, you're sure to find it in the Pacific Northwest. Plan to join us as we explore our own Northwest Passage.

DELOREAN ONE

Congratulates their clients for an outstanding presentation of quality DeLorean automobiles in the 17th ANNUAL HUNTINGTON BEACH CONCOURS D'ELEGANCE for the benefit of The Children's Resource Center at the Huntington Beach Public Library

Sponsored by the Public Library Patrons Foundation Huntington Beach, California

First Place - JULIE JOHNSON
Second Place - DOROTHY GATES
Third Place - DAVID JOHNSON

On behalf of the members of the DeLorean Owners Association, we want to thank all of you for presenting the DeLorean automobile as an outstanding competitive marque in meaningful Concours d'Elegance competition.

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EDITOR'S COMMENTS

by Edward R. Bernstein

Thank goodness you didn't miss the changing of the guard.

Just when you thought the image of the DeLorean automobile was as comfortable, predictable and warm as an old cashmere blanket, the DeLorean Owners Association "gotcha"!

It was a stable scenario: Expo every year, tech talk, products faire and the same old Saturday night dinner sponsored by the same old people. Ho Hum, pass the teddy bear.... What's new?"

Oh, oh, the Association has a whole new show and they're taking it on the road!

Forget about keeping that dusty, old stainless steel rapier in your musty garage. Get it out on the road and Rock 'n Roll.

The Northwest Passage is the first in a series of exciting destinations scheduled by the Association for the years to come. While other owners are sitting around faded, asphalt parking lots talking about how "cool" their car looks, Association members will be burning-up the highways heading toward new, exciting and romantic destinations.

Who cares if that 20-year-old stainless steel "bucket of bolts" will be worth $100,000.00 or more in the next 5 to 7 years? There are people out there today driving $150,000.00 to $250,000.00 cars everyday and they're in it just for the ride.

Excitement, romance and adventure are on the agenda for DeLorean Owners Association members NOW!

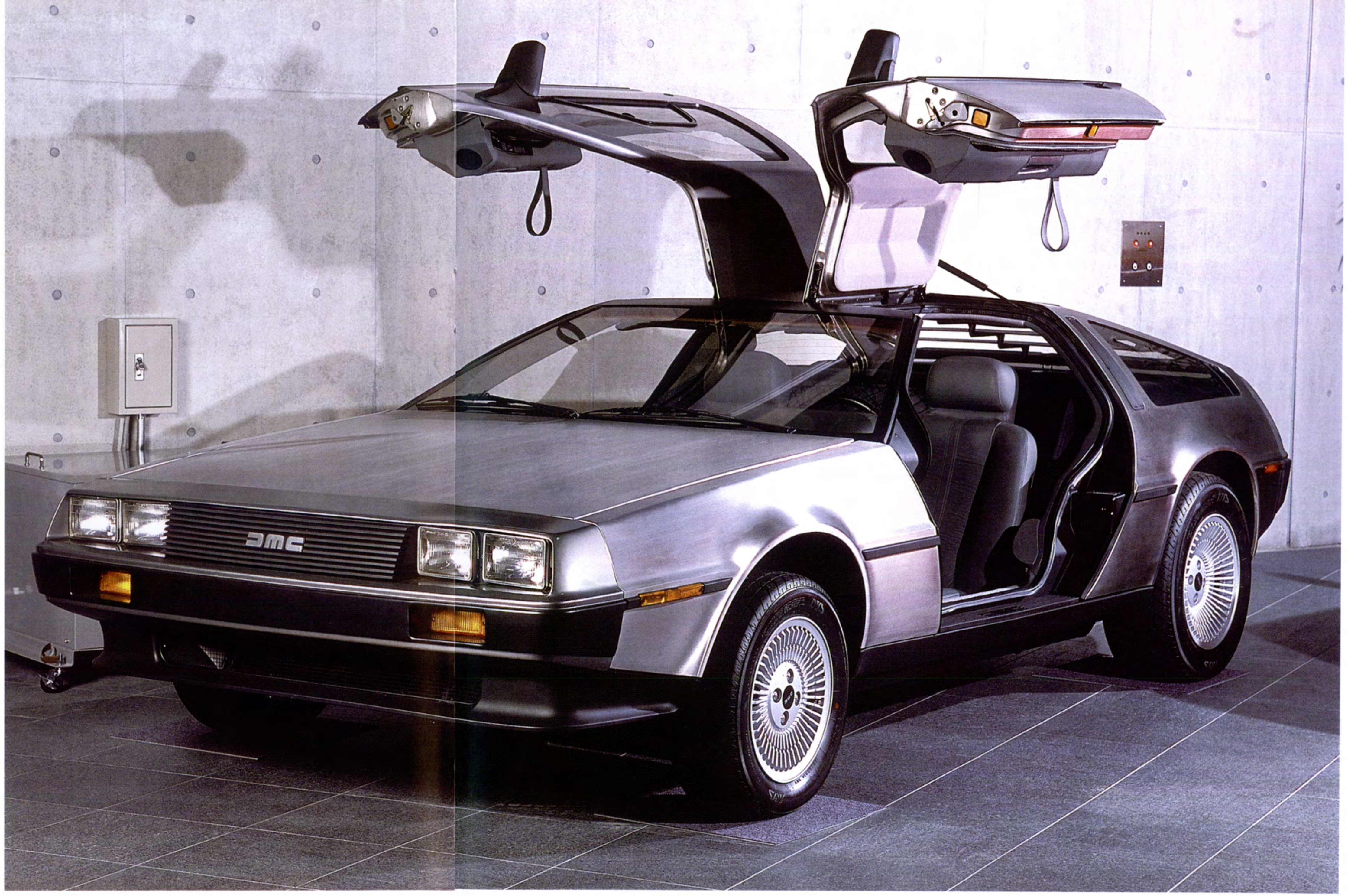
Think about it; "Run with the big dogs or sit on the porch".

PEACE OF MIND...
DELOREAN ONE

THE COOLEST VEHICLE...

Story: This article was translated, excerpted and edited from an article written by Mito Fujita in Daytona Magazine, Tokyo, Japan
Translation: Yasukai Ikeda of Owens Export Services, Inc. Chatsworth, CA
Photos: Yuzo Takai

▲
Mr. Yoshiaki Matsubara



In an interview with Japan's Daytona Magazine, Mr. Yoshiaki Matsubara stated, "I was a DeLorean fan since I saw 'Back to the Future'. However, there were no cars in good condition in our market. Then, I found out that I could buy a brand-new one. I waited for almost a year for my new DeLorean, but it was worth it."

When Mr. Matsubara says, "brand-new", he is not describing a car which was kept in a garage by the owner since it was new. He means his DeLorean was actually manufactured in 2001 using 99% new parts from the ground up.

The vehicle was built by DeLorean One of Chatsworth, California. They are a world famous DeLorean only shop, and the parts used for assembling this car are all DMC original - the same used by DMC for making DeLoreans at the factory in Ireland. So, Mr. Matsubara has a brand-new car.

▲
Mr. Matsubara's DeLorean being assembled in the DeLorean One facility. It is in the final stage of assembly.

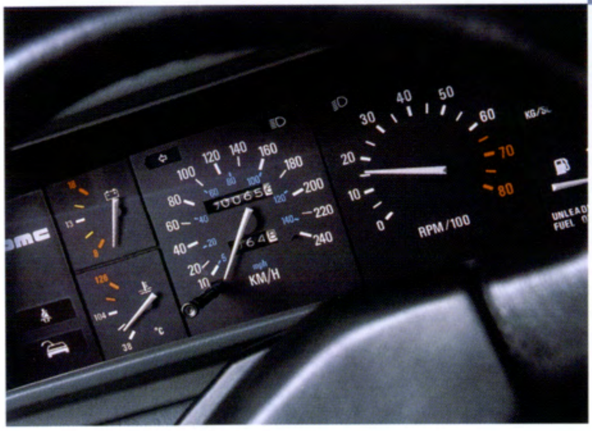
Even the odometer shows only 65km, and that was accumulated after completion during the test drive. Like a new DeLorean, the dampers for the gull-wing doors have no problem holding the doors in the open position.

Incidentally, DeLorean One still has enough parts for making several more "new" DeLoreans.

Well, this DeLorean may have made it possible to time travel forward from twenty years ago but, no matter how hard you try, it is not going to travel from the present to the past.

▲

The body is composed of stainless outer panels and FRP inner panels.



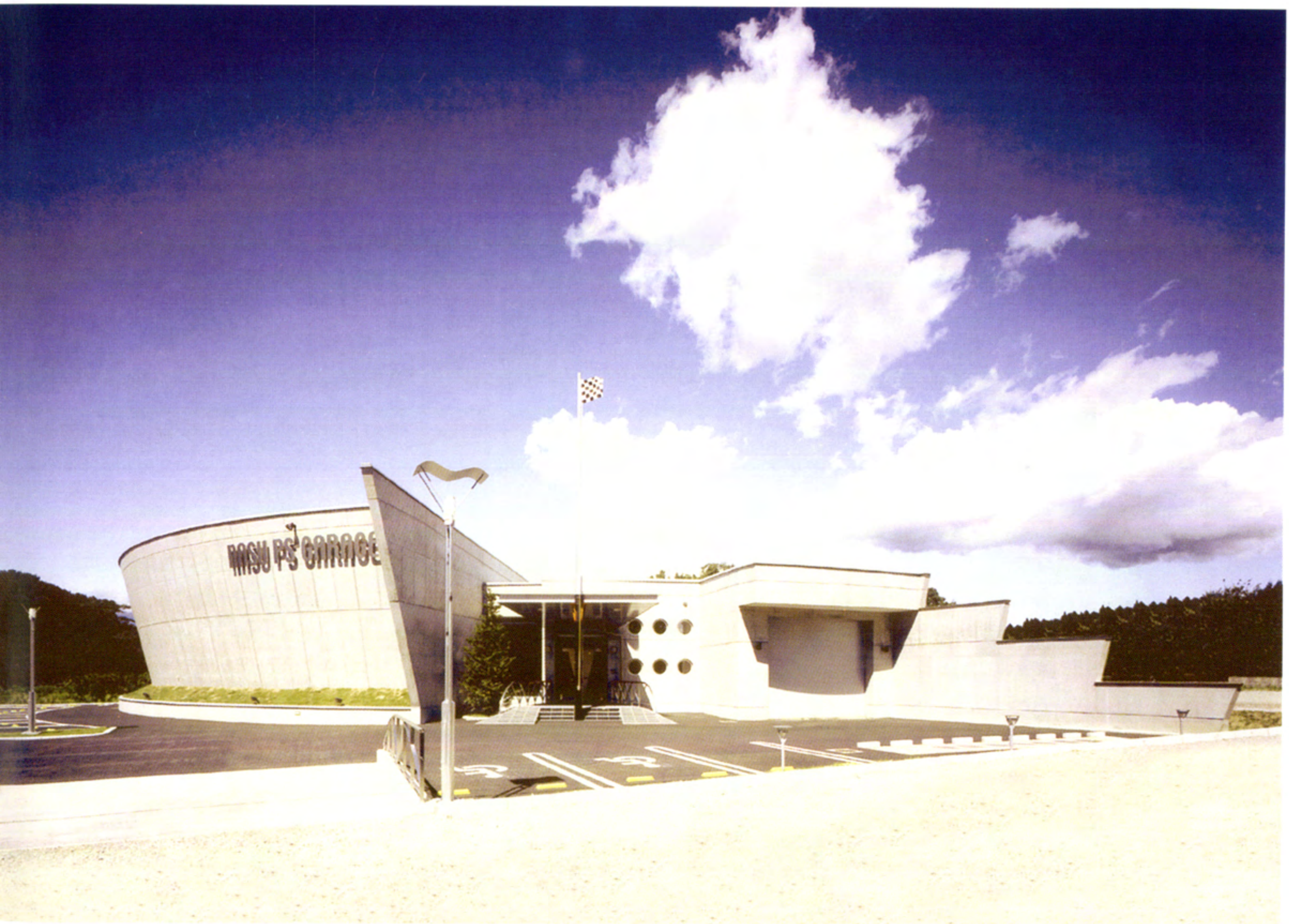
▲

*The odometer shows 65km.
DeLorean One, during the test drive, put on most of the accumulation.*

"THIS DELOREAN WAS MADE BY USING 99% OF NEW PARTS FROM THE GROUND UP."

Mr. Matsubara is providing a good home for his new DeLorean. He will display it in his own personal public museum, "Nasu PS Garage", at Nasu Highland in Tochigi Prefecture, Japan. A comfortable place to have tea and food while enjoying and browsing around the interesting vehicles is the museum's, "Theme Park Cafe".

NASU PS GARAGE



Mr. Matsubara continues, "When I was a child, I dreamed of a life surrounded by my favorite vehicles. I kept dreaming and then I started to collect them one by one. Over time, I created a real car collection. Of course it is not complete, but some of these vehicles are very precious to me and I decided to make a place to display them. My greatest consideration is to optimize the use of space and to not disappoint enthusiasts when they come to view my collection. The quantity of vehicles is not high, but I am extremely particular about the selection."

VEHICLES ON DISPLAY:

SPORTS AND HIGH MOBILITY 4X4

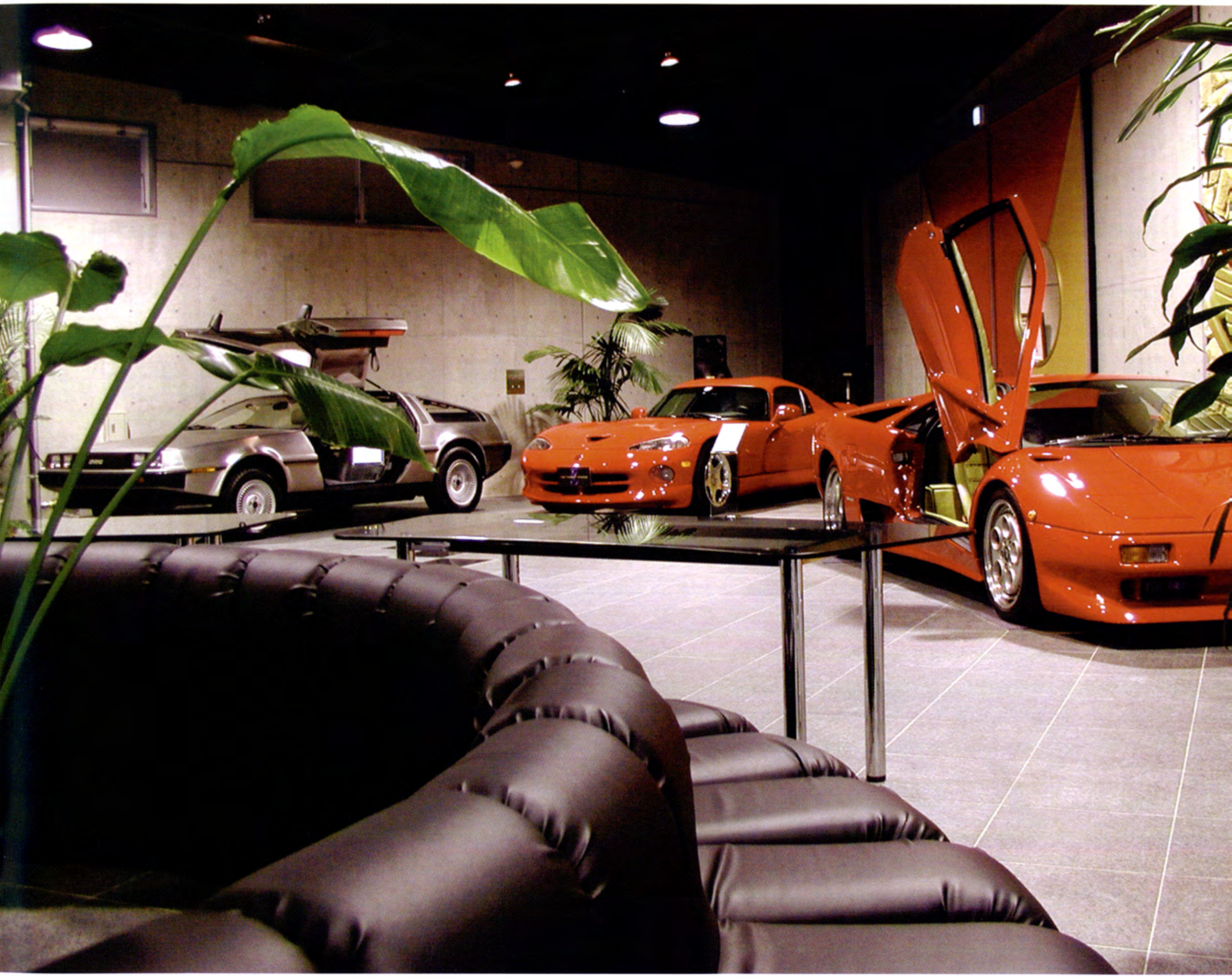
- *DMC Delorean*
- *Dodge Viper GTS*
- *Lamborghini Countach*
- *Lamborghini Diablo*
- *Lamborghini LM002*
- *Ferrari F40*
- *AM General Hummer*

MILITARY VEHICLES

- *AM General Humvee*
- *FMC XR311 (T-002)*
- *FMC XR311 (T-004)*
- *Ford GPW*
- *Ford GP*
- *Ford GPA*

  Ford M151- First Mass Production Model
    (A1 & A2 are made by AM General)
    Chenowith FAV (First Attack Vehicle)
- *M422A1 Mighty Mite*
- *Mechanical Mule M274*

NASU PS GARAGE (Collection)

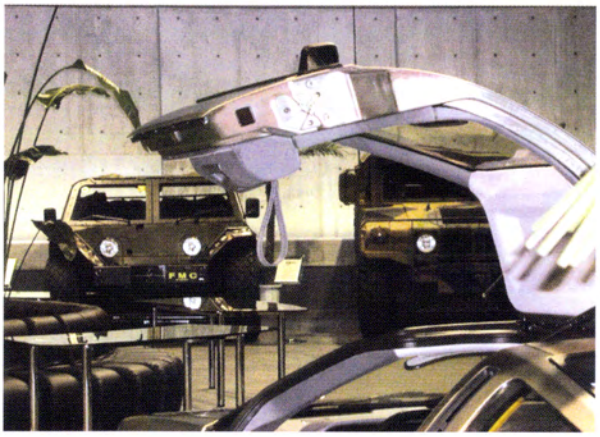


Due to space limitations, they are unable to display all the vehicles at the same time.

Mr. Matsubara says he does not want to place a railing that would disturb enjoying the vehicles, but asks that guests do not touch the displays.

Before coming with a large group, they would appreciate a call.

Because of the nature of the museum display, please avoid wearing combat type clothing.



TEST
OPERATION

TURBO
HONDA

MUSEUM DETAILS

5755-7 Takakulou, Nasu-Machi, Nasu-Gun,
Tochigi-Ken, 325-0053 JAPAN
Tel: 0287-63-2285
Fax: 0287-64-2519

HOURS:

11:00am - 7:00pm
Last food order - 6:00pm   Last drink order: 6:30pm

CLOSED: Monday

If Monday is a national holiday, we will be closed the following day. Days may vary depending on the season.

ADMISSION FEE:

If you order food or a drink, there is no admission fee.

VISITING NASU

Nasu is a famous resort and sight seeing area. Beautiful views, hot springs, museums, ranches, amusement park, camping, golf, skiing and tennis. Volcanic activity may be viewed from several locations along the Volcano Highway Toll Road.

NASU PS GARAGE

5755-7 Takakulou, Nasu-Machi, Nasu-Gun,
Tochigi-Ken, 325-0053 JAPAN
Tel: 0287-63-2285
Fax: 0287-64-2519

ACCESS:

By Train:
Tohoku New Express / From Tokyo to Nasu-Shiobara Station: About 1 hour and 15 min.
From Nasu-Shiobara Station to PS GARAGE: About 35 minutes by car.

From Touhoku-Honsen Kurosio Station to PS GARAGE: About 25 minutes by car.

By Car:

Tohoku Jidoshadou / From Tokyo to Nasu Inter-Change: About 3 hours.
From Nasu Inter-Change to PS GARAGE: About 8 minutes.

SO HIP, YOU'LL WANT TO WEAR IT!

This DeLorean key fob is so rugged and handsome, you'll want to show it off wherever you go. It's top grain leather and chrome plated, solid brass construction make it a standout in any crowd.

The unique, key clasp mechanism keeps keys secure, yet they are easily added or removed.

$16.95 plus shipping. Order item #NAK01

THE DELOREAN STORE
835 Church Street
Ventura, CA 93001
805.641.3161
Order online at: deloreanstore.com

Here's the best CASE scenario.

For a limited time, DeLorean Owners Association members will get a very special price on this high quality, DeLorean model display case.

HERE'S THE SCENARIO:

1. ***You have to be a member of the DeLorean Owners Association.***
2. If you are a member, you will be able to get a personalized DeLorean model display case for a special, low price.
3. If you are a member, you will also be able to get the lowest price available on a DeLorean model.
4. ***These members-only prices will only be available through November 15, 2002.***

HERE ARE THE DETAILS:

- The crystal clear, Lucite display case has a deep lacquered, solid oak base. It is a perfect fit for the DeLorean model.
- The case will include a Siltone plaque that has the following engraved information: your name, your DeLorean's vehicle identification number, your Association membership number and the DeLorean Owners Association logo.

Your members-only price for the display case and plaque will be $34.95, plus shipping, until November 15, 2002. After November 15, 2002, the price will increase to $44.95. Order item #NAC01

Measuring in excess of 9" long, the DeLorean model is beautifully detailed and finished.

The doors, bonnet and engine compartment cover open to display the details of the interior and engine.

Your members-only price for the model is $27.50, plus shipping, until November 15, 2002. After November 15, the price will increase to $29.95. Order item #NAM01

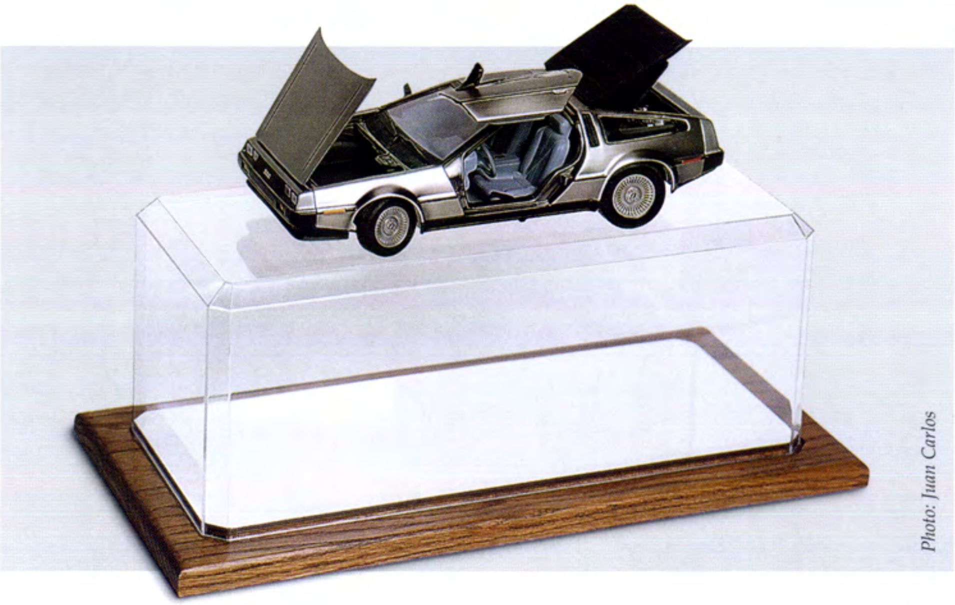


Photo: Juan Carlos

▲
Fireworks over the Lagan

WELCOME TO BELFAST

Story: Robert Lamrock
Photos: Belfast Visitors & Convention Bureau
Northern Ireland Tourist Board

Welcome to Belfast, a city where the splendour of its heritage combines with the dynamic promise of its future and the genuine friendliness of its people to create an unforgettable experience for every visitor.

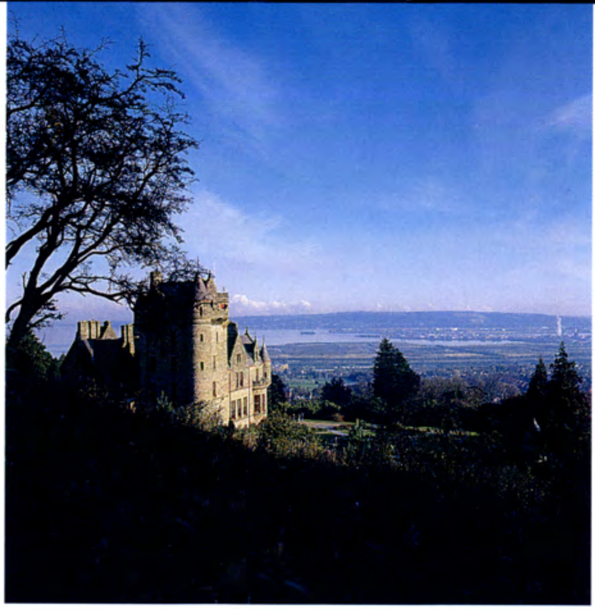
A city, which will surprise, delight and entertain all those who are prepared to join in the fun. Where you will find a past that still breathes in squares, avenues and streets of magnificent Victorian and Edwardian architecture; in atmospheric old pubs and markets; in the humour and stories of its people and in the miles of docks and crane-lined quays where the magic that created the world's famous ship, Titanic, still lingers.

A dramatically changing skyline announces the emergence of an exciting new Belfast

▲ *Night shot over the Lagan*

But down by that same water, a dramatically changing skyline announces the emergence of an exciting new Belfast with breathtaking visitor attractions, like the fantastic Odyssey complex with its cutting-edge science and technology museum - W5, (whowhatwherewhenwhy) part of the city's landmark Millennium Project. Both kids and adults will have endless fun with the interactive exhibits and while you are there, take the opportunity to catch the local ice-hockey team, the "Belfast Giants" facing off all comers in the Odyssey Arena. The atmosphere is electric and kids in particular will have a ball.

The dramatic investment of the last few years has filtered right through the city, helping to create the highest standards, and range of choice in hotels, restaurants, pubs and clubs. The City of Belfast is absolutely buzzing with a palpable feeling of optimism and excitement as the sophisticated clientele of the numerous new bars and clubs, step out to enjoy what their city has to offer.

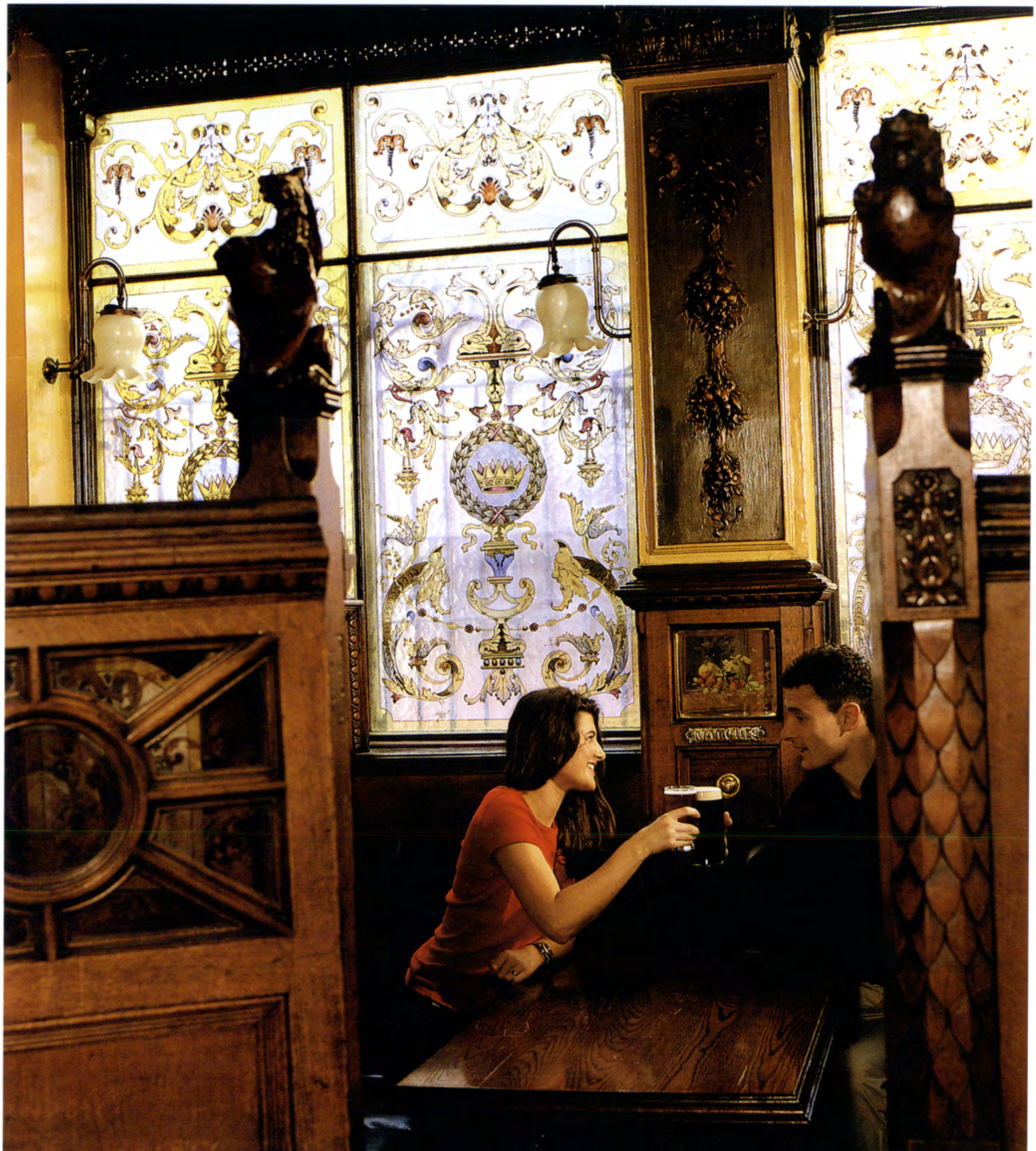


▲ *View from Belfast Castle*

Belfast is familiar to most of us for all the wrong reasons, but forget all you know or think you know and take the plunge, you won't be disappointed.

■ It's a city whose chefs are now famed for their innovation and creativity and where eating out is an event to be savoured; where the arts, from theatre to dance, contemporary art to classical music, are passionately celebrated and where there's always an event or festival to enjoy.

▼ *Crown Bar*



◀ Fish sculpture

▲ Albert Clock

◀ Belfast Festival

- A city where contemporary bars have become definitions of style, whose dance clubs have become the envy of Europe, and which has become a shopping destination in its own right.
- A city that is one of the easiest and most comfortable in the world to get around and unwind in, so near the country you can be walking deserted beaches or mountain ranges an hour's drive from its centre. And, not least, a city where the warmth of its people is not an idle cliché but a welcoming truth.

There's a great range of accommodations on offer too, from boutique style luxury hotels such as TENsq or the Hilton, to cozy relaxed guesthouses and B&Bs throughout the city. The University area is one of outstanding beauty and has recently played host to the 39th annual Festival, second only to the Edinburgh Festival in size and cultural exuberance. The festival always attracts outstanding performers and cultural figures and this year featured household names such as Jack Dee and Van Morrison and literary legends like Seamus Heaney, to name but a few. Belfast is gearing up to bid for the European City of Culture 2008 title and seems set to give its competitors a run for their money.

Take a stroll among the Botanic Gardens or stop off at one of the many little shops and cafes on Stranmillis and Botanic and you could almost be in Paris. Queens University itself is a spectacular site especially when bathed with light, lit up against the evening sky.

Even the more infamous areas of Belfast are now open to tourists. Walking tours and Black Cab tours with experienced guides give the low down on the impressive murals and local history of the Falls and Shankill Road. These tours come highly recommended and are a measure of the resilience and good humor of the locals.

▲ Queens University

▲ High Street

For a real sense of history, visit the Linen Hall Library in Belfast City Center. An independent subscription library, founded in 1788, it is a treasure house of Irish and local history and holds unique special collections.

For those who are born to shop, Belfast has a myriad of shops from the best of designer couture to familiar high-street names and all in a compact area in the city center. For a more sedate shopping experience, check out the Belfast Craft Village or Farmer's Market at the newly refurbished St. George's Market, in the shadow of the stunning architecture of Belfast Waterfront Hall.

If it's nightlife you're after, Belfast couldn't be better and you are sure to enjoy the famous local "craic". If you hanker after the sound of traditional Irish tunes check out the Kitchen Bar or sample the best of what locals call "the Black Stuff" (Guinness) as you enjoy a quiet pint in the world-famous Crown Bar. If you fancy joining in with the beautiful people, check out "the Apartment" or "Red" beside the City Hall. For those born to boogie, dance the night away at "Milk" close to the city's Cathedral Quarter.

Gourmets won't be disappointed with the wide variety of excellent cuisine Belfast has to offer. Check out the comfortable but funky restaurant Cayenne, owned by television chef, Paul Rankin and his wife Jeanne. Sample Japanese-inspired delicacies at Porcelain or enjoy less formal dining at the Northern Whig, one of the many up and coming establishments in Belfast, based in newly-renovated historic buildings.

And after a hectic round of sampling the best of what Belfast has to offer, why not relax by taking time out for a stroll along the Lagan towpath. You can even take a boat ride along the River Lagan itself and enjoy yet another view of this bold and beautiful city.

Whatever way you look at it, Belfast is coming into its own as a city of history, culture, and most of all fun! With an intriguing mix of old and new, Belfast can't fail to delight and is certainly worth a closer look.

BELFAST.HIGHLIGHTS

✓ *OUT THESE: HOTELS, RESTAURANTS, BARS, SHOPPING AND SIGHTS*

LODGING

Hilton *Lanyon Place*
Tel. 028 9027 7000
The City's only 5 star hotel, located at the Laganside Riverfront and adjacent to the Waterfront Concert Hall.

Europa Hotel *Gt. Victoris St.*
Tel. 028 9032 7000
Cosmopolitan international 4 star hotel . Situated in the heart of Belfast's Golden Mile, ideally located for exploring the many delights of the city, and directly opposite the Grand Opera House.

Jurys *Gt. Victoria St.*
Tel. 028 9053 3500
Jurys Belfast Inn is a 3 star hotel with a prime city center location, 190 large bedrooms accommodating up to 3 adults or 2 adults and 2 children at a fixed price. £71.00 per room per night!

Benedicts *Shaftesbury Sq.*
Tel. 028 9059 1999
Benedict's, Belfast's brightest city centre hotel and bar complex, has recently opened to province-wide acclaim. Situated close to Belfast's landmarks, shops and nightlife. Benedict's funkily designed club rooms are a talking point in the city, with luxurious Italian bathrooms, jacuzzi baths, king-sized beds, and satellite TV.

DINING

Deanes Brasserie *Howard St.*
Tel. 028 9056 0000
A lively, sophisticated street level brasserie whose aim is to bring the excellence of Michelin starred chef Michael Deane within reach of a wider audience.

McHugh's *Queen's Sq.*
Tel.028 9024 7830
Award winning pub in Belfast's oldest building has 100-seater restaurant with a distinctively different touch – an Open Wok Station.

Nicks Warehouse *Hill St.*
Tel. 028 9043 9690
Busy modern restaurant in the heart of the old Cathedral quarter. A good choice of freshly prepared dishes.

Porcelain *@TENsq Donegall Sq.*
Tel. 028 9024 1001
This contemporary timeless experience presents its guests with glamour, professionalism and decadent cuisine, a fusion of Japanese and European flavours ignite the taste buds.

PUBS/ BARS

Kitchen Bar *Victoria Sq.*
Tel 028 9032 4901
Traditional Irish bar dating back to 1859, with real ale, wholesome Ulster food – and traditional Irish and Scottish music always on a Friday nights.

The Rotterdam *Pilot St.*
Tel. 028 9074 6021
Regarded as home of live music in the city, the Rotterdam plays host to all kinds of bands with all different types of music to suit everyone.

Apartment *Donegal Sq.*
Tel.028 9050 9777
This hip and extremely funky style bar has brought sophistication and class to the epicentre of Belfast.

The Northern Whig *Bridge St.*
Tel. 028 9050 9888
Formerly home to the old Northern Whig printing press, this unique building was restored with a contemporary eastern European influence. Specialising in wines, coffees, cocktails and rare vodkas.

SHOP STOPS

Castlecourt Royal *Avenue*
Tel. 028 9023 4591
Northern Ireland's largest shopping centre extends over 8.5 acres and includes multi-storey parking for 1600 cars. It is undercover and air-conditioned with over 70 shops.

Forestside Shopping Centre
Upper Galwally
Tel. 028 9049 4990
Anchored by Sainsburys, Marks & Spencer and Dunnes Stores, the centre has over 1100 free car parking spaces and is open late every night.

Craftworks *Bedford Street*
Tel. 028 9024 4465
Craftworks displays the very best of Irish craftsmanship and design in all its glory. Here you will find contemporary ceramics, richly painted silks, fine linens, precious jewelry and classic knitwear.

CITY SCENE

Belfast City Hall *Donegall Square*
Tel. 028 9027 0456
Admission FREE. Guided Tours Mon.-Sat. Please book.
One of the finest Classical Renaissance buildings in Europe, this Edwardian (1906) masterpiece finished in Portland stone is the home of Belfast City Council.

St. George's Market *May Street*
Tel. 028 9027 0386
Market open Friday with twice-monthly Saturday Farmers Market. More than 100 years old but looking better than ever after restoration.

Botanic Gardens *Stranmillis Road*
The palmhouse (1852) is a masterpiece of moulded glass and wrought iron, displaying exotic trees and flowering plants. The Tropical Ravine (1889) features a humid jungle glen plus a fish pond dominated by giant waterlillies.

GO THERE

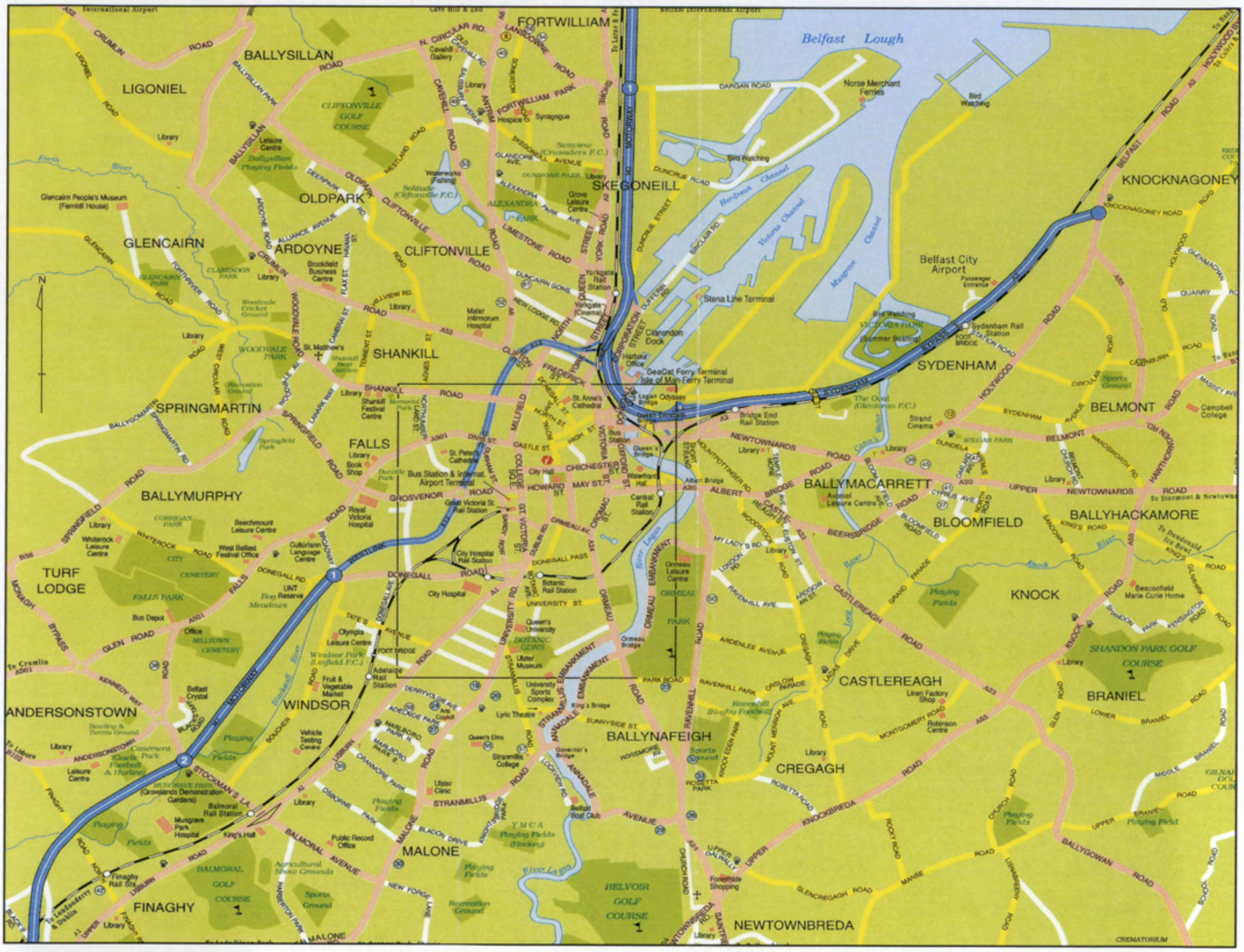
(Outside Belfast)

The Giant's Causeway
Co. Antrim
Tel. 028 2073 2143
This geological phenomenon renowned for its columns of layered basalt is a world heritage site and a fabulous day visit from Belfast (1 and a half hours drive). Owned by the conservation charity The National Trust, it sits in an area of outstanding natural beauty on the North Antrim coast.

Old Bushmills Distillery
Bushmills
Tel. 028 2073 1521
Oldest licensed whiskey distillery in the world, established in 1608. One hour guided tour and whiskey tasting. Be sure to try some Black Bushmills – it's my favourite tipple. (hic!)

BELFAST.EXPLORER

let dw magazine be your guide


Belfast Lough
FORTWILLIAM
BALLYSILLAN
LIGONIEL
OLDPARK
SKEGONEILL
KNOCKNAGONEY
GLENCAIRN
ARDOYNE
CLIFTONVILLE
Belfast City Airport
SHANKILL
SYDENHAM
SPRINGMARTIN
BELMONT
FALLS
BALLYMACARRETT
BALLYMURPHY
BLOOMFIELD
BALLYHACKAMORE
TURF LODGE
KNOCK
CASTLEREAGH
BRANIEL
ANDERSONSTOWN
WINDSOR
BALLYNAFEIGH
CREGAGH
MALONE
FINAGHY
NEWTOWNBREDA
CLIFTONVILLE GOLF COURSE
BELVOIR GOLF COURSE
BALMORAL GOLF COURSE
SHANDON PARK GOLF COURSE
Stena Line Terminal
SeaCat Ferry Terminal
Isle of Man Ferry Terminal
Norse Merchant Ferries
City Hall
Great Victoria St. Rail Station
Central Rail Station
Botanic Rail Station
Queen's University
City Hospital
Royal Victoria Hospital
Yorkgate Rail Station
Sydenham Rail Station
Finaghy Rail Station
Balmoral Rail Station

CURRENCY

1 Pound Sterling = 100 pence = euro 0.64 (rate varies)

EXCHANGE RATES

£1 = $1.45 (rate varies)

WEBSITES

www.gotobelfast.com -
homepage of Belfast Visitor & Convention Bureau
www.belfasttelegraph.co.uk -
news from Belfast's main evening paper
www.discovernorthernireland.com -
homepage of Northern Ireland Tourist Board

COMMUNICATIONS

The code for Northern Ireland is 44, Belfast is 28

EMERGENCIES

Dial 999 for all police, fire or ambulance services

AIRLINES

Aer Lingus	0845 9737 747
British Midland	0870 60 70 555
EasyJet	0870 6000 000

CONSULATES

US	9032 8239
German	7034 0403
Netherland	9077 9088

THINGS TO DO

1. See a show at the Grand Opera House
2. Have a drink in the Crown Liquor Saloon
3. Visit the Odyssey and watch the Belfast Giants ice hockey team
4. Eat some potato bread and soda bread
5. Take a tour of Belfast City Hall
6. See where the Titanic was built
7. Visit Stormont Parliament Buildings
8. Go to the Ulster Folk & Transport Museum
9. Trace your Irish ancestors at the Public Record Office
10. Eat an Ulster fry (sausage, egg, bacon, tomatoes, and fried bread)

THINGS TO BUY

1. A bottle of Old Bushmills Whiskey
2. An Irish Joke book
3. A Pooh Bear ice cream from Maud's
4. A piece of Belfast or Tyrone crystal
5. Some Irish linen

Next year, these will be too expensive - even for crystal.

These Galway Irish Crystal coasters were the hit of the 20th anniversary Eurofest in Belfast. We had a few left over, so you can get several before they're gone.

Next year, they'll be on e-bay as "rare Crystal Coasters" for who knows how much.

The Association logo and Eurofest 2001 is etched on the bottom.

$30 for 1 ....Order item #MAC01
$100 for 4 ....Order item #MAC04
$125 for 6 ....Order item #MAC06

THE DELOREAN STORE
835 Church Street
Ventura, CA 93001
805.641.3161
Order online at: deloreanstore.com

DELOREAN OWNERS ASSOCIATION
Eurofest
2001

Photo: Juan Carlos

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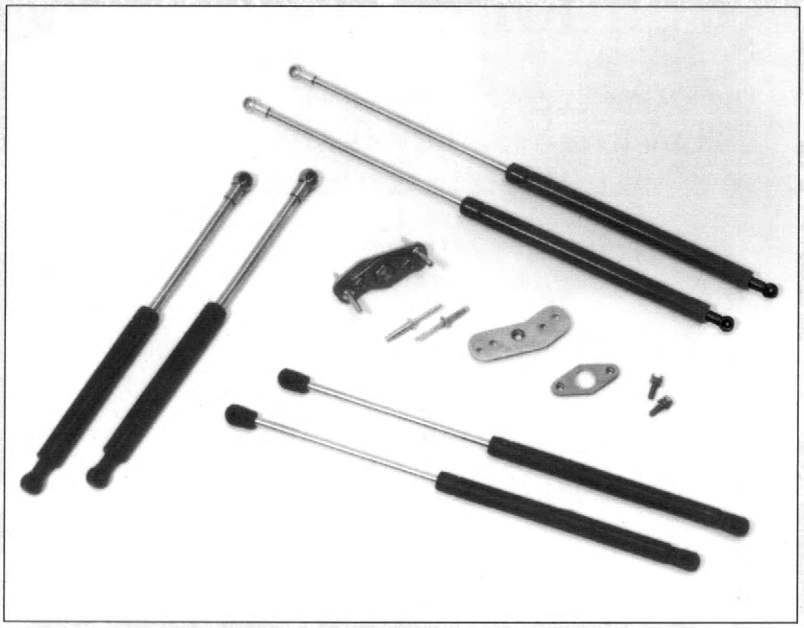
PJ Grady, Inc............................	*pg. 48*
DeLorean Owners Association.....	*pg's. 2, 12-13, 41, 47*
Turbo Manifold Company...........	*pg. 55*

No More Bumps On The Head

Our door and hood lift pistons are custom made for us and more closely resemble the originals in function and appearance than any other supplier. They use specially selected gas pressures, piston rod lengths, and even the finish on the ball studs. All of our lift supports have self cleaning pistons with oring seals and teflon backup rings. They also feature exclusive triple-lobe rubber seals riding on chromium plated hardened steel piston rods for better gas and oil retention. Our manufacturer claims a design life of over half a million cycles in continuous use... two and a half times longer than competitive lift pistons.

Some companies try to compensate for their single lip seals which are prone to leaking by using a higher gas charge. This places added stress on the lower mounting body ball stud, makes the door gain speed as it opens, and requires more frequent torsion bar adjustments.

If you don't agree that our pistons are the best available, regardless of price, you can return them for a full refund.



100592G	**Door Lift Piston**	$59.00 ea .$110.00 pair
105063G	**Hood Lift Piston**	.$96.00 pair
108209G	**Sunshade Lift Piston**	.$60.00 pair
111592G	**Lift Piston Set (6)** (A Pair of Each)	**.$239.00**
108563G	**Heavy Duty Lower Door Lift Support Brackets** (pair) . . . . Some of these brackets are bending from overcharged pistons or heavy use. These new brackets double the surface area and number of fasteners used to spread the load over a larger area.	.$48.00

FANZILLA™

The only product that can eliminate engine lag and sudden voltage drops when you use your air conditioner.

You've probably noticed these problems when you drive your DeLorean in warm weather. Fanzilla lets you leave the A/C on and enjoy the DeLorean ride the way it was meant to be. This product supersedes the factory's "temporary" fan fail bypass link modification. Fanzilla uses state of the art technology to restore the fan fail light function and sequentially engage the cooling fans for smoother operation. This reduces the load on the entire electrical system which saves wear and tear on alternators, cooling fans, computer governors, etc. Although Fanzilla is expensive this feature alone could make it pay for itself! Once you plug it in (no tools required) you'll be hooked! Try it for 90 days risk free and if you're not completely satisfied send it back for a full refund. Fanzilla has been proven so reliable and customer demand so strong our only problem has been keeping enough in stock! Try it and see what all the excitement is about.

FANZILLA™	(five year warranty) . . . . The original (and only) sequential cooling fan control module.	**.$219.50**

P.J. GRADY INC.
118 MONTAUK HWY., WEST SAYVILLE, NEW YORK 11796

PJ Grady Inc.

DELOREAN SALES, PARTS, SERVICE AND RESTORATION
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PARTS ORDER LINE: TECH INFO LINE:
800-350-7429 631-589-6224 FAX: 631-589-6241
website: pjgrady.com e-mail: info@pjgrady.com

HOME OF ZILLA™
PERFORMANCE ELECTRONICS

EMERGENCY HOOD OPENING PROCEDURES
& REPLACING THE BONNET ACCESS CABLE

Text: Dick Shipman

The access cable to the Bonnet (luggage compartment) may break when the hood release lever is pulled too hard or from continuous dropping of the hood onto the latching mechanism when closing.

INITIAL PROCEDURE:
Using a vise-grip or a strong pair of pliers, you can attempt to get a grip on the frayed cable strands from inside the vehicle near the hood release lever. Pull gently if the frayed strands of wire do not look very long.

NOTE: If you are fortunate to open the hood, as directed above, be sure to have a thick towel or cloth ready to immediately place over the latching mechanism so it does not latch over the hood staple if you inadvertently drop the hood down before installing a replacement cable.

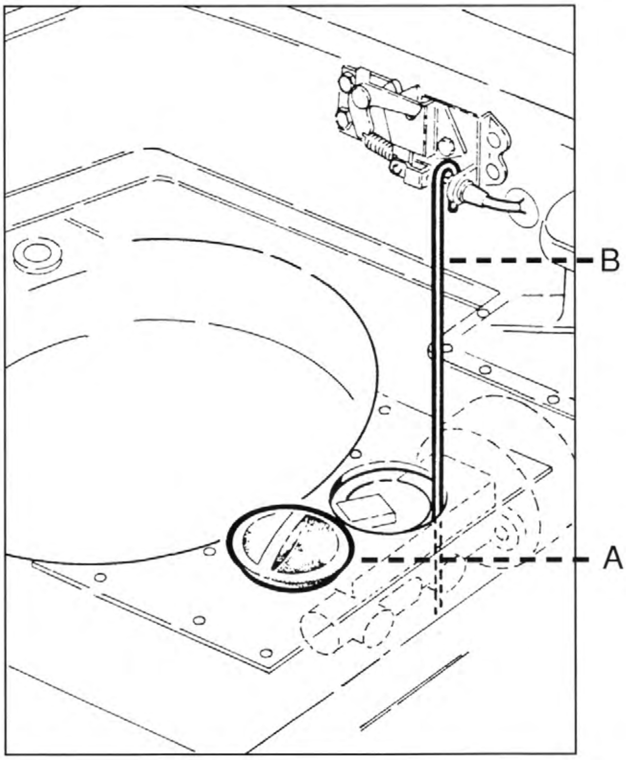
Proceed as follows if the initial procedure is unsuccessful:

1. Place the front of the car on a hoist or strong jack stands. ***For safety reasons, do not simply jack up the car. It can fall on you!***
2. Remove the left front wheel.
3. Use a 3/8" wooden dowel or other suitable shaft to remove the brake master cylinder rubber reservoir access cover (A) from under the car.
4. Using a flashlight and a firm hooked wire such as a suspended ceiling frame support wire (B) or coat hanger, reach through the aperture above the brake master cylinder reservoir and pull on the hood release mechanism. *NOTE: If there is any luggage in the luggage compartment, it may be necessary to move it aside with a sturdy 1" square garden stake or broom handle section.*
5. As above, after opening the hood, immediately prop it open and place a thick cloth/towel over the latching mechanism to prevent it from accidentally closing.
6. Insert a replacement braided cable of proper length and attach it to the hood release lever inside the car or install a complete new inner cable and housing (DeLorean Part #100572). Reference DeLorean World Magazine Volume 18, Number 2 for emergency Bonnet access cable installation.

IMPORTANT:
The proper procedure for opening the hood is to gently pull on the hood release lever inside the car and the hood will "pop-up" slightly. Lift the hood and the gas struts will slowly lift it to the full open position. In the event the hood does not "pop-up", simply reach in and pull the hood release lever with your right hand and lift the hood with your left hand.

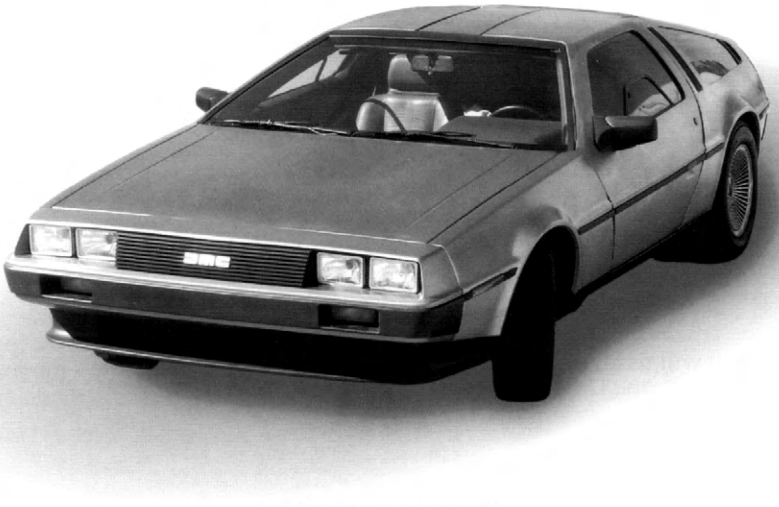
Do not permit the hood to slam shut! Guide the hood down to the latch with your hand, and when it is resting on the latching mechanism, gently push it closed with the heel of your hand over the latch.

MAINTENANCE TIP:
Periodically (every few months), lubricate the latch with a light application of quality oil and visually check the cable inside near the lever release handle for abrasion wear or fraying cable strands.



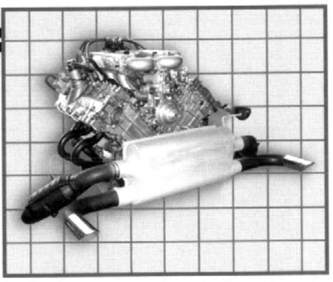
WE'VE MOVED!
Come visit us! See our new 40,000 sq ft Texas headquarters! Note our new address and phone numbers below!

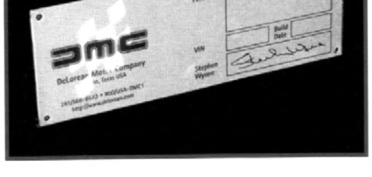
FAST



FASTER

DMC De Lorean Motor Company





If they look the same to you, that's the point. The 197hp Stage II engine from DeLorean Motor Company doesn't change the exterior appearance, just improves the performance. Available as an upgrade to your existing engine, or as a completely new 'zero-mile' engine, each engine is identified by a special plaque in the engine compartment...just in case you can't tell the difference from the outside.

15023 Eddie Drive • Humble, TX 77396 USA • 800/USA-DMC1 Toll-free • 281/441-2537 Voice • 281/441-2813 Fax
Visit our online store at www.delorean.com

Story: Bob Petruska
Photos: Doris Petruska, Jeff Castillo

DeLorean Featured at FX-2002 Collectible Show

Bob Petruska

As we were planning our winter get-away vacation in December 2001, all my wife Doris and I knew was that we wanted to go to someplace warm, probably in March. The FX-2002 Toy and Collectibles Expo was going to be held in Orlando, Florida on February 16th and 17th, and we distinctly heard the call of Mickey. "Back to the Future" was the featured attraction with appearances by two of the main characters from the three films and an extensive display of props and models that were used in the films.

FX-2002 was held in the Orange County Convention Center with about 500 vendor booths selling everything from miniature fast food toys, cereal box premiums, Barbie animation art, games, sports cards, rock & roll pins, to numerous items from comic book and cartoon characters, TV series and movie heroes and villains including life-size replicas of Yoda and R2-D2 from Star Wars. This Florida Extravaganza (FX), which began in 1989, is now the largest indoor, collectible show in the United States!

Of course, the main feature that drew us to the show did not disappoint. In a strategically located corner of the Expo was the Back to the Future exhibit area. When we arrived, actor Tom Wilson, who you all will recall played Biff, Griff and Buford "Mad Dog" Tannen in the film trilogy and the fantastic Universal Studios theme park ride, was signing autographs and charming the fans of the BTTF series.

In addition, there were displays from the world's largest privately held BTTF collection. Included were 12 hoverboards, Doc Brown's shirt, Marty and Doc's radiation suits, 2 scale model DeLorean automobiles about 2 feet long, Marty's warning letter to Doc, the yellow Citroen, which was the 2015 Taxi Cab, Doc's chess set and sleep-inducing alpha rhythm generator, and about 100 other authentic props and costumes that appeared in the films and the ride. Knowledgeable BTTF personnel were on hand to answer questions about the collection and provided anecdotal information and stories on many of the pieces.

Did you know that a refrigerator was originally considered for use as the time machine in BTTF? Director Robert Zemeckis said that idea was scrapped because he and Steven Spielberg didn't want children to start climbing into refrigerators and getting trapped inside. In retrospect, it was an excellent and fortuitous decision that has enabled the DeLorean automobile to become known and recognized throughout the world! Although some owners are purists, one cannot dispute the impact that the films and ride have had in spotlighting and keeping the car in the public eye.

At other vendor booths throughout the show we found both of the Sun Star 1/18th scale model cars, the Corgi BTTF model packaged with a figure of Doc Brown, and the Japanese Hot Wheels models. All in all, the FX-2002 Expo made our decision to go to Orlando in February an unforgettable experience and that much more enjoyable.

If anyone wants to plan ahead, next year's FX-2003 will again be held in Orlando, Florida at the convention Center on January 11th and 12th. Remember to drive your DeLorean.... it's in the future, you know.

Tom Wilson signing autographs at FX-2002

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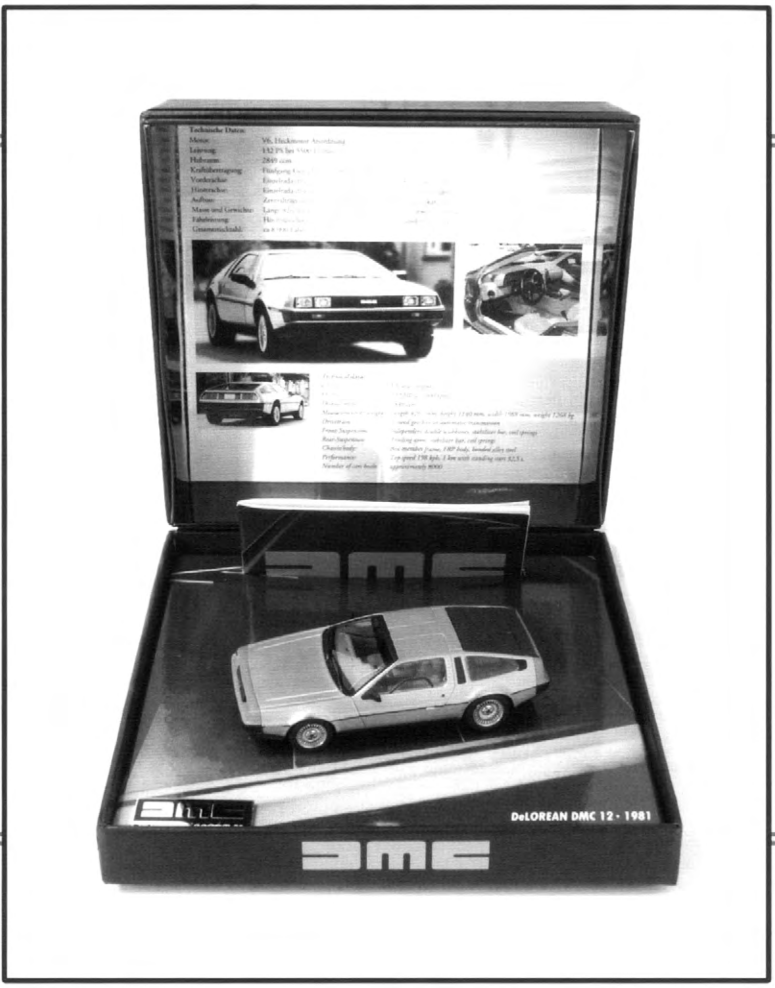

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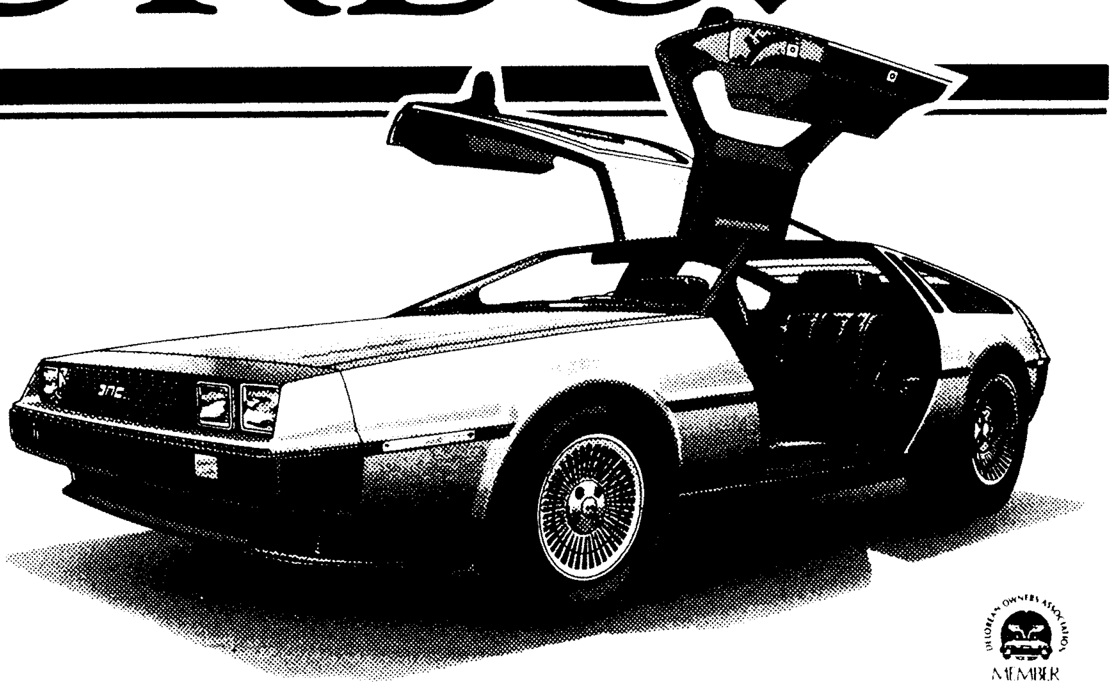

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